

Master Thesis in Informatics

# Consequences of Sarbanes-Oxley on IT Sourcing Companies

Henrik Pedersen and Daniel Stålbäck  
Gothenburg, Sweden 2005



IT University  
of Göteborg

CHALMERS | GÖTEBORGS UNIVERSITET

Department of Informatics, Business Technology



## **Consequences of Sarbanes-Oxley on IT Sourcing Companies**

*- A survey at Volvo Cars IT and their central sourcing partners*

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## Foreword

A long journey is now starting to wind-up and our days at the IT University of Göteborg is soon over. When we now are in the finish phase of our master thesis we can look back at seven months of hard work with late nights and early mornings, but also with many, long and instructive discussions and interesting meetings with different company representatives. With this thesis we have completed our studies and received a master's degree in informatics.

This 20 point, D-level thesis is written during the second year at the program titled; Business Technology master program, at the Department of Informatics, IT University of Göteborg in co-operation with Volvo Cars IT (VC IT) in Gothenburg.

The subject of the thesis was supposed to discuss an area within information technology and we have therefore chosen to write about the consequences of Sarbanes-Oxley on IT sourcing companies.

We would like to thank everyone who has been involved and supported us in our thesis writing:

- Our supervisor Urban Nuldén, IT-university of Göteborg, for all the good advises.
- Pelle Lundgren our industrial coach at Volvo Cars IT for his time, guidance and all good advises.
- Finally, we thank our interviewees, that they took their time to meet with us and answer our questions.

Gothenburg, 26<sup>th</sup> of January, 2005  
Henrik Pedersen and Daniel Stålbäck

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## Abstract

This Master thesis gives a picture of which consequences the demands of Sarbanes-Oxley Act of 2002 put on companies using IT sourcing as a part of their business strategy. The purpose is to bring up the problems to the surface. There are no or only a few sources that have mentioned the problem before. The thesis presents the opinions from four different perspectives around the issues within the Sarbanes-Oxley process. From the industries' known experience receives the reader a better understanding in; the advantages and disadvantages and the demands they will face during the realization of a Sarbanes-Oxley process. The thesis is intended principally to professionals within IT sourcing or IT governance because it suggests how the relation between IT sourcing partners are affected and can be facilitated.

The thesis' empirical foundation is derived from ten interviews with representatives from; customers, suppliers, the academy and firms of accountants. The theoretical basis is composed from secondary data to receive an understanding and background to the problem area.

We have come to the conclusion there are two categories of consequences: alteration and business relation. We found that the following alteration areas will be affected by the Sarbanes-Oxley Act: Business, Finance and Competence. We have also found a number of consequences affecting the relation between the customer and supplier.

### ***Keywords***

Sarbanes-Oxley Act, SOX, IT sourcing, Consequences

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# Sammanfattning

Denna magisteruppsats ger en bild över vilka konsekvenser Sarbanes-Oxley aktens krav får för företag som använder IT-sourcing som en del av företagsstrategin. Syftet är att föra upp problematiken till ytan då detta område inte tidigare omnämnts i någon större utsträckning. Rapporten behandlar utifrån fyra perspektiv uppfattning runt Sarbanes-Oxley processen och vilka problem som uppkommit. Utifrån industrins upplevda erfarenheter får läsaren bättre förståelse för kraven och vilka för- och nackdelar som ställs vid genomförandet av en Sarbanes-Oxley process. Rapporten riktar sig främst till dem som arbetar med IT-sourcing eller IT-governance då den ger förslag på hur relationen mellan två IT-sourcingpartners kan påverkas och underlättas.

Det empiriska underlaget till rapporten har tagits fram genom tio intervjuer med representanter från kund- och leverantörssidan, akademien och revisionsbolag. Den teoretiska förankringen är hämtad från sekundärdata för att få en förståelse och bakgrund till problemområdet.

Vi har kommit fram till två konsekvenskategorier: förändring och affärsrelation. Inom förändringskonsekvenserna fann vi att följande områden kommer påverkas av Sarbanes-Oxley akten: verksamhet, finans och kompetens. Vi har även funnit en rad med konsekvenser som kommer att påverka relationen mellan kund och leverantör.

## *Nyckelord*

Sarbanes-Oxley Act, SOX, IT-sourcing, Konsekvenser

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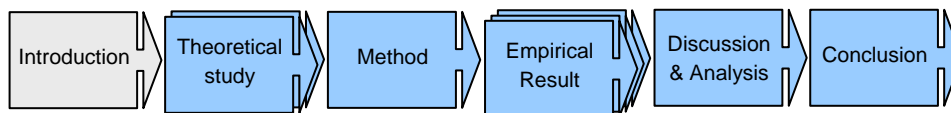
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# 1 INTRODUCTION

This chapter will present the background of the problem as well as defining it. The chapter presents the purpose of the thesis, outlines it and gives the delimitation of our explanations.

To make it easier for the reader to understand we have a glossary as an appendix where we explain relevant concepts for the thesis. In the beginning of each chapter there will be a disposition figure so the reader easily can view the structure of the thesis and a short presentation of the contents for the upcoming chapter.

Expected readers for this thesis are people involved in IT sourcing and strategy issues preparing their Sarbanes-Oxley process.



*Figure 1. Thesis overview: Introduction*

The introduction chapter consists of three parts. First there is a reader's guide helping the reader to see the contents of each chapter. Then we will present the background and the problem area to our thesis. These problems have their foundation from discussions with people from the business world that we have been in contact with. The next part describes the purpose with our research and the thesis question will be presented.

## 1.1 READERS GUIDE

The following section provides the outline for this thesis chapter by chapter.

- *Chapter 1. Introduction.* The first chapter gives the reader the purpose of the thesis and describes the background and problem area. Then we will present the question that we are going to handle in this thesis.
- *Chapter 2. Theoretical Study.* This chapter is divided into two sub-chapters. The first part introduces the reader to the foundations of the term IT sourcing and a number of related issues. The second part gives the reader an understanding of The Sarbanes-Oxley Act.
- *Chapter 3. Method.* This chapter describes the methods that we used to answer the problem question of the thesis and to reach its purpose.
- *Chapter 4. Empirical Result.* This chapter intends to present our perspectives derived from our interview studies: SOX – Managing Complexity, SOX – Tuning the Process and SOX – Sourcing Strategy.
- *Chapter 5. Analysis and Discussion.* Here will we analyze and discuss the empirical data. We will also give our own reflections from this study and discuss possible future studies within this subject field.
- *Chapter 6. Conclusions.* The last chapter presents the explicit conclusions and answers the question presented in the introduction chapter.

## 1.2 BACKGROUND AND PROBLEM AREA

In the fall and spring 2001 it was found out that the American energy corporation Enron deliberately cheated with hiding their debts. The main reason for this was to show a better finance position then they actually had. They had also accounted their future revenues directly, which looked really good in the annual financial statement. This resulted in that the accountants' profession and moral was strongly questioned [44]. All this resulted in that Enron Corporation was declared bankrupted but there were still distrust in the accountants' profession. Many other companies were very close to get into the same situation as Enron just had experienced. The Enron scandal resulted in that the president of the United States signed the Sarbanes-Oxley act (SOX) into a law on July 30, 2002 [37]. SOX is one step to restore the confidence to the investors in public companies. With this new harder

financial legislation the law maker believe that they can reduce similar scandals in the future [53].

The law is directed to every public company in America and can cause long term of imprisonment and heavy fine for those who break any of the rules. Also foreign companies listed on the American stock exchange are being directly affected by the rules, as well as their subsidiary companies. American companies with their business activities outside the United States are also affected. Enterprises supporting these companies, as mentioned above, with sourcing business will also be affected. This means that also the suppliers must look over their financial systems and routines. In a near future will a Swedish law, based on an EU directive, this in turn based on SOX, very likely be legislated. [8]

The American Ford-owned Volvo Cars is highly affected by the SOX legislation. Because it is an American owned company they have to comply with the law already in the end of 2004. There are other Swedish companies in the same position as Volvo Cars, but because they are not American owned they will have one extra year to comply with the law.

SOX imply that every turned over capital must be disclosed up in the organization hierarchy, the whole financial process must be traceable. A company with SOX compliance is therefore forced to choose between other SOX compliance sourcing partners and collaborators. This mean that many companies who today deliver services to SOX compliance companies immediately must start standardize there own business and audit routines otherwise they can lose large and important customers. [10]

According to Gomolski [19] the two most important IT management issues CIO's will confront during 2004 are: Sarbanes-Oxley and IT sourcing. While the Sarbanes-Oxley Act is mainly about accounting reform, it will have large implications for IT organizations in the coming year. In the first phase of Sarbanes-Oxley projects, IT has been asked to work closely with finance and outside accountants to catalog existing financial reporting systems. During 2004, many IT leaders will have to evaluate staffing situation and methods, as this issue now is one topic at the highest levels of the organization. Therefore, IT managers need to actively consider their IT sourcing options, keeping in mind that those options will continue to evolve throughout the year.

## **1.3 PURPOSE AND RESEARCH QUESTION**

The subject about the new SOX legislation is a hot topic to Swedish industry and especially to the companies who are listed on the American stock market. All companies in Sweden will be effected by this legislation or a similar legislation in the near future which makes it a very up to date subject to investigate. Companies using IT sourcing as a business method are urgent that their suppliers also have achieved SOX compliance before the legislation comes into effect.

The thesis focuses on the consequences of SOX on IT sourcing companies. Our purpose is to bring up the set of problems to the surface. The goals we have determined to accomplish through this study are that we want to get a deeper understanding of the SOX concept and more knowledge about IT sourcing.

During our work we address a question, related to the problem. Our thesis will answer this main question:

*What are the consequences of Sarbanes-Oxley on  
IT sourcing companies?*

### **1.3.1 Delimitation**

There will not be any profound explanation about Sarbanes-Oxley act in the thesis. We will define the significant parts of the act to understand the context. We will particular focus on the sections 302 and 404 in the act that concern IT executive and accountants the most. The thesis is examining what are the SOX demands and addresses the signification in practice. How you from these demands can facilitate the IT sourcing relations.

The sourcing area is very wide and we will only discuss the area IT sourcing when this part is of most significations for our thesis.

## 2 THEORETICAL STUDY

The purpose with this chapter is to present a theoretical foundation and understanding to the subject. The theory will help us to reach the purpose of the thesis.

### 2.1 IT SOURCING

This section will describe the foundations of the term IT sourcing and its related issues. Our purpose is to introduce relevant theories to create a general understanding of what this concept is all about.

This section consists of four parts which are important when discussing the strategy of IT sourcing. The first part, *the company*, presents what companies need to look in to within the company when they consider using IT sourcing as a strategy. The following part, *IT sourcing*, will discuss and define the concept IT sourcing and its related strategies. The third part, *agreements*, discusses the importance of agreements within IT sourcing and what a company needs to consider before signing an agreement. The last part in this section, *developing an IT sourcing strategy*, will explain the different steps a company need to reflect on before using IT sourcing as a strategy. These different theories are relevant for our thesis to receive a better understanding for the upcoming result.

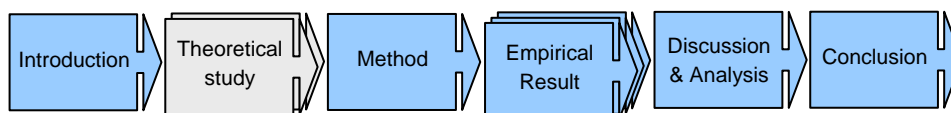


Figure 2. Thesis overview: Theoretical Study

The development within the IT area is moving fast and the result is a changed business structure. This means that we are heading for a new type of business. From a general point of view, before it was the supplier that managed the contents of the delivery and in the present situation it is the customers' requirements that is managing the contents. So the delivery becomes more customer specific which results in higher demands for order competence for the customer. [21]

### 2.1.1 The Company

#### *Porters value chain*

A company's different business parts can be divided into primary activities (core business) and support activities. Porter has presented a model (figure 3) that describes the relationship between them through defining the company's value chain [24]. The primary activities form the foundation for the company's main processes and their possible competitive advantage. It is accordingly around these activities that the company forms the rest of the organization. The support activities are directly bound up with the primary activities and need to be a part of the organization as support to the primary activities so they can work effective. According to the model IT is a supporting activity and part of the infrastructure. A company's IT infrastructure is the "roads" for the company's IT system. It is the fundamental structure and the foundation where a company builds their IT organization. One important issue is that the IT infrastructure is adapted for the company's present and upcoming needs. It is the foundation for cost-efficient and rational IT systems. IT do not have to be a supporting activity it can also be the core business for some company's when IT is an essential part of the company's product or service. [24]

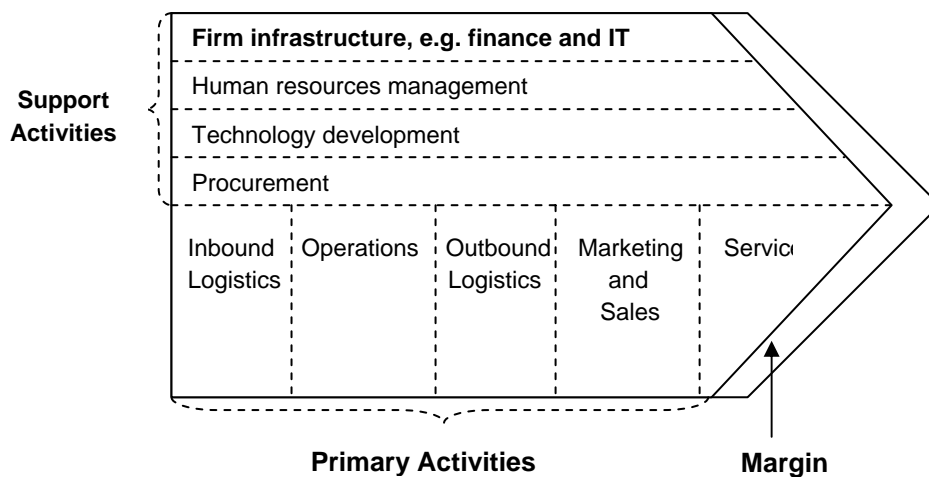


Figure 3. The value chain by Porter.

By sorting the company's activities they can receive a better picture over what activities that is critical for the company. Through dividing the company's activities in processes it will present an understanding for which activities that creates customer benefits [24]. Companies that consider using the strategy IT sourcing must identify the core competence that is significant for the company's competitiveness. If the company overlooks the core competence there will be a risk they will hand over critical activities and



functions to the supplier. This can bring devastating consequences for the company [51]. IT sourcing should focus on areas that is far away from the company's core competence, since the strategic risk increases, the closer the company's core competence activities are [24].

### *Core Competence*

With core competence means the competence within a company that has significance for the company's competitiveness. If the company does not realize what their core competence is, there is a large risk that critical activities leave the company and the competitiveness decreases. [2]

Core competence is something unique for each and every company. Core competence contributes to customer value in the end product and shall be something that is hard for the competitors to copy. A definition of core competence is: [45]

*"The special knowledge, skill and technological ability that separate your company from other companies."*

The core competence at a company is divided into two parts. The first part is "know-how", the employee's capability and knowledge, which also includes technology, e.g. computer systems. The second part is the processes to deliver a product to the customer with maximized customer value [33].

### *Control*

To be as efficient as possible a company needs to have control over the different processes within the organization. A business process is a group of activities that takes one or more inputs and creates an output that is of value for the customer. Process control is about following-up the process and its quality. Process control shall contribute with information about the products or services quality continuously. By doing what a company can at an early stage they can take care of problems and differences and improve the quality. Business controls is used both within the manufacturing and service industry. [48]

If there is a high level of control within the organization the company can make faster decisions and increase the competitiveness. By taking control and decrease the administrative work they will improve the efficiency,

create flexibility and reduce the costs and receive larger focus on priorities within the company. [48]

### *Communication*

The communication within an organization is different from other types of communication since it is expressed during structured and formalized forms. Factors as hierarchy and status complicate the communication to a certain level. Rogers and Agarwala-Rogers [49] define communication in organizations as:

*“Organizational communication is that which occurs within an organization and between an organization and its environment”.*

They mean that communication in an organization exists of both internal communication within the company and also external communication between the company and suppliers, customers and other interested parties. To communicate is important to receive a continuous improvement of the organization. The communication within the organization is sometimes called: “the life blood” of the organization and some authors also mean that the internal communication is “the backbone” of the organization. [49]

### **2.1.2 Sourcing**

To be able to describe and investigate the concept IT sourcing we have to explain the concepts of insourcing and outsourcing. The reason is that the concepts seem to be very chained together in the literature. Many people have heard about outsourcing but today new terms are appearing all over: in-sourcing, co-sourcing, share-sourcing and strategic sourcing. Many of these solutions depend on partnerships or alliances rather than contractual agreements. Alliance in this context means co-operation between organizations that work as partners to receive superior results. [50]

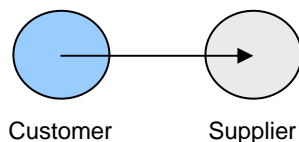
*Outsourcing* has, as many other concepts, many different definitions. Many leaders would agree that outsourcing involves purchasing services from an outside company. Some argue that it is not outsourcing unless the company’s employees transfer to the service provider. Others claim that the organization has to have provided the service in-house first [31]. Jane Linder asked hundreds of executive and the underlying concept she found was: [31]

*“Outsourcing means purchasing ongoing services from an outside company that a company currently provides, or most organizations normally provide themselves.”*

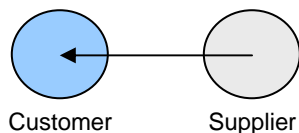
Person and Virum [43] defines the concept outsourcing as companies contract more and more of their production to their subcontractor. Functions that an organization decides to outsource are parts that not are directly join to their main business, e.g. cleaning, handling the food and handling the wages system. Augustson and Bergstedt [3] describe outsourcing by explaining three different definitions:

1. Outsourcing as externalizing of existing activities
2. Outsourcing as purchasing
3. Outsourcing as relation

1. *Outsourcing as externalizing of existing activities.* The first interpretation means that a company assigns activities to an external supplier, “to out-source something”. This means that the activity for example the manufacturing of a component is sold out. The result when they moving existing activities out of their company are that the company shrinks.

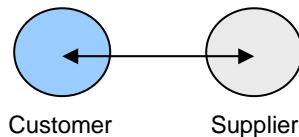


2. *Outsourcing as purchase.* This definition is described as purchasing external produced goods and services. This means implicit that the outsourced company performed the activity internal before the outsourcing. This is defined as “to source from without”. If a company buy new activities this will result in that the access of goods and services increases and this without the company size is affected.



3. *Outsourcing as relation.* The third interpretation is a combination between the two above. Here outsourcing means contracting an existing activity to an external supplier. This assumes that the company has had the

activity internally at an earlier occasion. This also means that a co-operation relation is established between the outsourcing company and the external supplier. This kind of outsourcing relationship runs often on a long-term basis.



Van Weele [55] a professor in Supply Management describes the use of outsourcing as:

*“The decisive criterion is the question whether the activity concerned contributes to achieving a competitive advantage. If this is not the case the company should decide to bring the specific activity outside the company.”*

All the definitions are built on the same basis, to outsource an activity to an external part. Yet they put the significance on different parts in the definition. Van Weele [55] and Person and Virum [43] are the only one that points out that the affected activity should not contribute to the internal competence. The other authors' simply means that outsourcing is about outsource existing processes to an external part.

Just like outsourcing, *insourcing* has been defined in several different ways, by several different persons. Insourcing can be an alternative to outsourcing but only to an already carried through outsourcing process. Insourcing and outsourcing is not an alternative to each other in situations where a new activity is involved.

Insourcing is the transfer of an outsourced function to an internal department of a company, to be managed entirely by employees.[38] Both costs and responsibility is brought back to an internal unit. A short definition by Chapman and Andrade [9] gives a reference that insourcing is a failure for the one who was in charge for the outsourcing:

*“Insourcing means the outsourcer has lost its job”*

According to Chapman and Andrade [9] a company can make conclusions about the management skills with insourcing and outsourcing. The authors mean that decisions about insourcing can indicate that the management wants to control their own destiny, which usually is a good sign.

In one of the Swedish Government public investigations is insourcing defined as hiring personal from other organizations or using temporarily employees. This is defined as a company buys capacity from another company that they control from inside their company. Companies like Manpower and Proffice are according to them specialized in this kind of insourcing. [13]

According to Van Weele [55], who also talked about outsourcing, insourcing means:

*“Insourcing means that the company may decide to take over strategic activities that previously were performed by suppliers.”*

With an insourcing situation, it is important to thoroughly understand the use, retrieval, and integrity of information used in different information departments within the organization. Information usage, data integrity and retrieval of data share certain similarities and are simultaneously quite different. How the data is used is critical to the level of department service. Service can be modified to support varying data needs in a timely fashion by efficient use of the resource tools available within the organization.

As outsourcing moves resources and personnel out from the organization, insourcing increases the quantity of resources and personnel in an organization. Insourcing means that a company brings both responsibility and resources of some processes functionality back into an organization. Outsourcing and insourcing is a change about how a company handles a service within their organization. [9]

The concept *IT sourcing* includes both outsourcing and insourcing dealing with IT services. It involves the process of identifying, conducting negotiations with, and forming supply agreements with suppliers' services. IT sourcing means that a company buys an IT service from another suppliers. This is the largest area when it comes to sourcing but sourcing is much more then just dealing with IT. Today there are sourcing businesses that deals with logistic services, manufacturing of components in e.g. the car

and telecom business. Figure 4 shows the different sourcing options that an organization can have with their suppliers.

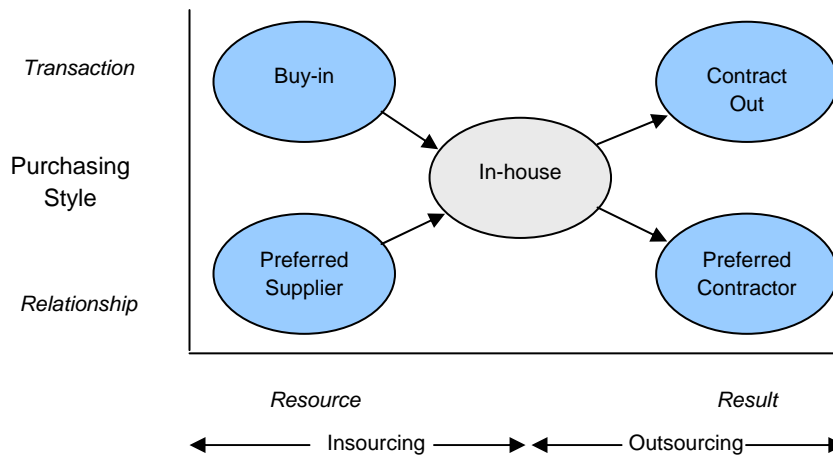


Figure 4. Clarifying sourcing options  
(Willcocks, & Lacity, 1997) [58]

*Transaction* refers to one-time or short-term agreements and *relationship* refers to a less detailed agreements based on the expectations that the customer and supplier will do business for many years. *Resource*, companies buy supplier resources such as expertise but manages the delivery of the activity themselves. *Result* means that suppliers manage the delivery of an activity to present the company with specified results. [58]

In the *contract-out* strategy the supplier is responsible for delivering the result of the activity. To success with this strategy it is important that the organization has defined their needs in a well written agreement. The *preferred contractor* strategy refers to that the organizations write long-term agreements to mediate the risk. To ensure high performance from the supplier and to ensure shared goals the organization writes incentive-based agreements. *Buy-in* strategy means that the organization needs a temporary resource. For how long is often uncertain so the agreements is often about specifying the skills required and the cost per person. The *preferred supplier* strategy takes the buy-in strategy further; the organization wants to develop a long-term relationship with a supplier in order to access its resources for ongoing activities. For example a company hires a staffing company to provide programmers whenever needed. The supplier becomes motivated because it relies on a steady flow of revenue. [58]

### *About IT Sourcing*

Many companies have been moving toward strategic sourcing, a collection of activities preceding the signing of a contract. Strategic sourcing includes analyzing expenses, identifying potential suppliers, requesting quotations and negotiating agreements, and monitoring and improving suppliers. [39]

Companies have also started to limit the number of suppliers they do business with by implementing supplier review programs that identify suppliers with operational excellence. A close buyer-supplier relationship is important because suppliers in such a relationship are easier to work with and provides better service. [39]

When using IT sourcing a company needs to locate the one sourcing partner out there that can provide needed product/service better than anyone else. This process can be very hard but the best fit exists. In the beginning of this discovery process, the first important thing is to understand what the company are looking for. The first and most common thing is price. Today this is a significant indicator but not always the most important part to look at. In some cases the IT sourcing specialist must look to other directions to differentiate one supplier candidate from another, such as service levels, payment terms and delivery schedules. [39]

If a company only focuses on the price it can involve consequences. Focusing on price alone is a potential pitfall of centralized IT sourcing done from some companies. Supplier quality and performance issues must also be considering being successful in centralized IT sourcing. The company may be glad if the buyer has the ability to receive low cost items on long term agreements. At the same time the company will not be impressed on their IT sourcing experts when the suppliers cannot perform. [39]

To become an IT sourcing specialist a company needs to look far further than the price to decide the final supplier. To understand the cost of the process, its components and the lead times to accomplish production completion a company needs to learn what is required of their supplier to supply the service they desire. To success in any supplier agreement they need to know and understand their supplier's needs almost more than their own. [39]

### *The Four Key IT Sourcing Decisions*

An effective IT enterprise strategy will help an IT manager make the following four key sourcing decisions [11]:

*What to insource or outsource?* An IT manager has to decide upon the size and scope of insourcing or outsourcing. The size may range from coding to the complete IT operation. Within this choice the IT manager may consider a simple application, a complete business process, or an entire business function as a unit for IT sourcing. For example, help desk, accounting or human resource information system.

*When to insource or outsource?* As with any other decision, timing of the IT sourcing decision will be essential. For example, the development of an information system may be an appropriate point for insourcing or outsourcing. Two situations that may create disruption are the union of two information systems and a change of platforms. One thing to have in mind is that it may be effective to outsource at one time and insource the same item at a different time.

*Why to insource or outsource?* An IT sourcing decision has to be defensible and the IT manager need to provide a motivation for the decision to the top management and existing house staff. This motivation has to be similar with organization IT strategy and the business strategy. They provide the business reasons for insourcing or outsourcing.

*Where to insource or outsource?* An IT manager has a number of options for insourcing and outsourcing. The manager may be able to insource within the many units of the company in Sweden or abroad, likewise with outsourcing. These options strengths and weaknesses may have an important impact upon the cost and competitive advantage benefits that may grow from the IT sourcing decision. An organizations IT and business strategy should provide a structure for the decision where to insource or outsource.

#### **2.1.3 Agreements**

There is a lot that can go wrong in an IT sourcing deal if terms are not clearly spelled out before an agreement is signed. The agreement is the foundation for the business and explains what is expected from both parts. The different parties need to specify the rights and obligations and agree on how the co-operating shall be performed. It is important to be clear and



specify the different responsibility areas between the supplier and customer. Where IT sourcing agreements were once focused primarily on controlling increasing cost, they are now leverage by companies looking to gain operational flexibility and responsiveness as well. [3]

Today it is more and more common with risk-sharing in agreements. The buyer and the supplier agree to share the potential benefits or losses. This has been more common today when the buyer has started to set the demands. This means that consultancy firms put the payment at risk, related to how well the project went. Profit sharing, when the supplier gets paid in relation to the value of the project is still rare. The reason for that is because of the problem to see how the profit is generated. In these situations it is more common with some kind of bonus instead of profit-sharing. [58]

Another perspective is to not using so strict agreements. Often organizations hide behind pieces of paper instead of working together to create a true agreement. It is hard to create and maintain an effective partnership because the agreement often gets in the way. It is important to sit down and work out the next success for both parties instead of just pointing out a clause in an agreement and complain on each other about each others commitment or performance [39].

If there is not so strict agreement there is more reason to work together to improve the business relationship or to solve a problem. Instead of being restricted by an agreement, try to see the lack of a agreement as an opportunity to encourage further growth for one or both of the players. Try to agree to work together to continually improve quality, reduce inventories, provide innovative recommendations and ideas, and work toward constantly reducing prices. As a customer they will achieve the benefits of these tasks and the guarantee that their supplier is working for their best interests. The customer's supplier will be pleased feeling that the customer are in its corner and will stay there for the long-term and will not change partner as soon as a competitor offers products at a lower price. [39]

If a company can organize the agreements there are a lot of money to save. They need to think through the agreement structure within their company and how they are organized. If they do not have any structure over their agreements their business can not grow. If the structure is well formed it is easy to change or make additions to all the agreements within the company. [22]

### *Standard agreements*

As in many other line of businesses there are standard agreements developed for the IT business. Standard agreements are written for one perspective (e.g. supplier) and are not well balanced for all parties' interest. The purpose with standard agreements is not to use them exactly as they are but to use them as checklists that can be adjust to each situation. [21]

The business standard agreement will give a standardized common foundation for the finally agreement. The standard agreement text also gives a fair legal predictability since the design of the agreement is well-known substance. The standard agreements, used correctly, are very good checklists that guarantee that a company have all the essential parts in the agreement. An important part when they use a standard agreement is that they use *the right* standard agreement. There are a number of agreements to choose between and if they use the wrong one the checklist want work. [21]

Examples of standard agreements within IT are [21]:

- *IT Services, Services 92 (IT-Tjänster)*. These agreements are consultant agreements, intended to be used for e.g. business analysis and analyze of control and management processes. Also for the development of IT strategies, IT plans and the implementation of an IT system, that includes education etc.
- *Agreement 90 (Avtal 90)*. This agreement refers to the delivery of IT solutions concerning standard products with assistance during the installation. The delivery can involve hardware products as well as software products. It is a delivery with functional demands where specifications that has been agreed between the different parties.
- *Development 92, IT Project (Utveckling 92, IT-Projekt)*. These agreements are custom-made to be used for customer specific development and adaptation. They can also be used for administration of customer specific systems. IT Project is an all-embracing agreement that is produced for IT projects, where consultant services, hardware as standard applications and customer specific development exists. From the business complexity this agreement demands extensive clarifications and specifications.
- *Agreement 90 maintenance, IT maintenance (Avtal 90 Underhåll, IT-Underhåll)*. Agreement 90 maintenance refers to maintenance of standard applications where a product description exists. IT maintenance agreements refer to standard applications as well as customer specific adaptations. The agreements do not have a

defined agreement about the content and scope of the maintenance. This must therefore be defined in the agreement.

- *IT Operations (IT-Drift)*. This agreement refers to operations, support and outsourcing. This is used when a supplier undertakes to operate a customers IT system. If a supplier shall undertake the operations from the customer there need to be specific agreement about this. In this specification a company needs to specify what equipment, what licenses and what personnel that should be assigned to the supplier.

### *Specification of Requirements*

A specification of requirements is a document that states the demands that the buyer has on a product or service before it is developed. This is a very vital part of the agreement. The specification of requirements describes the buyers' purpose and the target audience needs and also specifies technique and field of application. When companies buy-in a project they need to go through the specification of requirements thoroughly. Otherwise the consequences can be devastating. In a specification of requirements are all the needs described within a limited area. It is not enough to write wishes, the company needs to be specific. To identify and formulate the organizations demands requires a structured way of working and well tested methods. [32]

The developer will look at the specification of requirements throughout the development phase. This to be sure that the result is consistent with the original idea. The specification of requirements is developed in close co-operation between the supplier and the buyer. The demands should be written so they can be checked during the project and after and the different demands should not be in conflict with each other. It is important to find a metric how a company can measure the demands. They need to document as much as they can because most conflicts between the buyer and the supplier is that they have a different view on the project. The more thoroughly a company writes their specification of requirements the larger are the chances that they get what they want. [32]

### 2.1.4 Developing a IT Sourcing Strategy

When companies is considering to in-source or outsource a part of their company to reduce costs, improve performance and ensure competitiveness they need to plan before they leap. Two of every three outsourcing agreements fail, according to Gartner Inc., and the reason is simple, bad planning. The same goes for insourcing. So a company needs to create a comprehensive sourcing strategy. This strategy is built in three steps: Discovery, Analysis and Execution (see figure 5). [6]

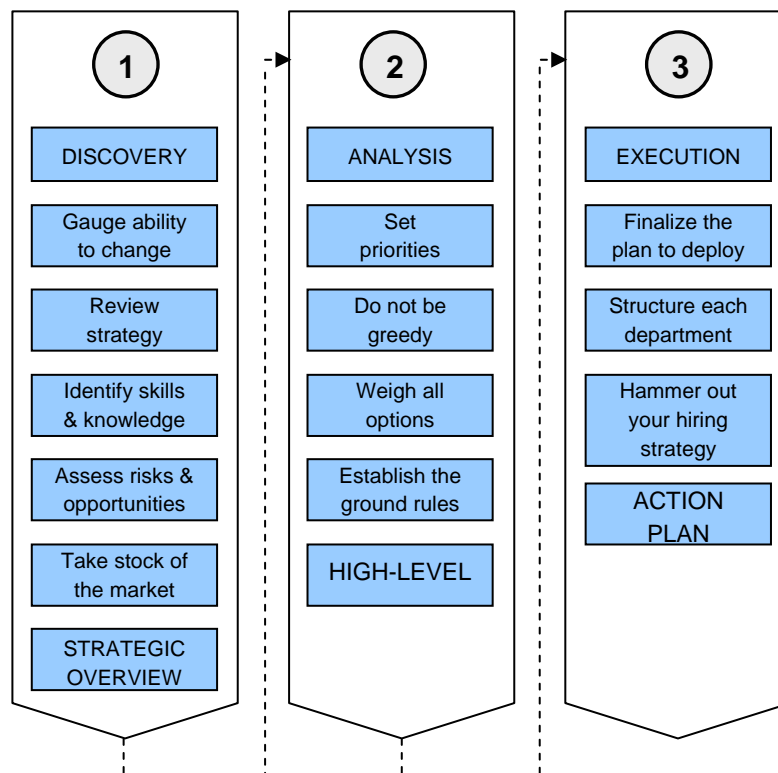


Figure 5. Developing an IT sourcing strategy.

#### Step 1: Discovery

First the company needs to do a careful review of where they stand. They should know all about their agreements, systems, suppliers, equipment etc. This step should be lead by internal staff (CIO, technical managers, finance, operations, legal). Here they also need to hire a consulting team with proven experience with IT sourcing, this because their own expertise is limited. [6]

- *Gauge ability to change.* Does the company have the resources that are necessary to be able to carry through this process. Before they start with the process they need to measure if it is possible to pull this off.
- *Review strategy.* Analyze the strategy and try to understand where things have failed before so that the company does not make the same mistakes. They need to ask themselves questions like: Is technology delivering their business goals? The strategy also needs to be aligning with the business plan. What is it they want to accomplish?
- *Identify skills and knowledge.* In this part the company needs to learn what their suppliers are doing. They also need to learn the processes in place and be sure they are aware of what their suppliers know about their business.
- *Assess risks and opportunities.* Try to find and map out the different pitfalls that may occur and avoid them. Also try to think further about what capabilities the company will need to make sure they are competitive.
- *Take stock of the market.* The IT sourcing consulting team needs to deliver a complete market analysis so the company can see what their competitors are doing and what they are paying.
- *Strategic overview.* Now is this first discovery step complete. Pass this collected information to the company CEO and dig in for some serious analysis and try to get an overview.

### Step 2: Analysis

In this next step the company needs to draw conclusions from the collected data and compile them into an IT sourcing strategy. This is something that the consultant team should help the company with using the lessons they have learned. This step will be the most labor-intensive, so it is important to have dedicated consultants as well as internal staff. [6]

- *Set priorities.* Here the company needs to bring back operations in phases, new applications? finance? enterprise? List important functions and determine the order in which the company will roll them out.
- *Do not be greedy.* Very few companies does everything themselves. Categorize specialized functions as payroll, data storage that a supplier would do better.
- *Weigh all options.* Think about all the costs and risks of every decision the company make. Locate the logical place where each major technology should be located in.

- *Establish the ground rules.* The company needs to set up rules to guide the transition. An important question here is: Can they hire from their supplier?
- *High level strategy.* Analysis is complete. A clear strategy is developed and the company can narrow it down into an IT sourcing plan. Now it is time to get into the details.

### **Step 3: Execution**

The strategy pays off as details fall in place. In this last step the company set priorities, list tasks and set deadlines. The final action plan is generally driven by the staff but the consultants play also a key role.[6]

- *Finalize the plan to deploy.* Priorities are now matched with specifics and it is time to schedule the implement stage and detail the logistics. The company has to decide which department that will start and where it is located.
- *Structure each department.* Each department needs a structure, a mission plan and a lot of descriptions how they shall perform their work.
- *Hammer out your hiring strategy.* Now the company needs to figure out how many people they want to hire. Put a lot of money behind recruiting and do not underestimate the time the company will need.
- *Action plan.* Now the company has a complete strategy for their technology and a plan to guide them each step of the way.

### **2.1.5 Summary**

A company's different parts can be divided into primary activities (core business) and support activities. IT is a supporting activity and is a part of the infrastructure. A company's IT infrastructure is the "roads" for the company's IT system.[24] Companies that consider using the strategy IT sourcing must identify the core competence that is significant for the company's competitiveness. If they do not identify the core competence there will be a risk that they will hand over critical activities and functions to the supplier. [2] With core competence means the competence within a company that has signification for the company's competitiveness. [45]

To be as efficient as possible a company needs to have control over the different processes within the organization. If there is a high level of control within the organization the company can make faster decisions and increase the competitiveness. [48] To get control over the processes and to receive a

continuous improvement of the organization there need to be good communication. [49] The concept of IT sourcing includes both outsourcing and insourcing dealing with IT services. It involves the process of identifying, conducting negotiations with, and forming supply agreements with suppliers' services. IT sourcing means that a company buy an IT service from another supplier. When using IT sourcing a company needs to locate the one company out there that can provide needed product/service better than anyone else. [39]

There is a lot that can go wrong in an IT sourcing deal if terms are not clearly spelled out before an agreement is signed. The agreement is the foundation for the business and explains what is expected from both parts. [3] As in many other line of businesses there are standard agreements developed for the IT business. The purpose with standard agreements is not to use them exactly as they are but to use them as a checklist that a company adjusts to each situation. [21] When a company are considering using IT sourcing as a strategy to reduce costs, improve performance and ensure competitiveness they need to plan before they leap. To create a comprehensive IT sourcing strategy a company needs to look in to three important steps: Discovery, Analysis and Execution. This will help the company avoid failing with their strategy. [6]

## **2.2 SARBANES-OXLEY ACT**

Our thesis deals with the consequences the Sarbanes-Oxley (SOX) act will have on IT sourcing business. With this basis we will in this section discuss the SOX act and its effects. This section will give the reader an understanding of Sarbanes-Oxley – a central part and a background to our research problem.

### **2.2.1 The Act**

The Sarbanes-Oxley Act of 2002 has launched in a new era of reporting accountabilities for public companies. It requires management of such organizations to certify the effectiveness of the internal controls that are the basis of their financial reporting. The specifics are delineated in section 404 of the act, with which public companies having more than \$75 million in market capitalization will have to comply in 2004, if their fiscal year ends on or after November 15, 2004. Smaller companies, foreign private issuers and companies with only registered debt securities do not have to comply before July 15, 2005.

The act has created a new standard for the corporate accountability and penalties for corporate wrongdoing. The act contains eleven titles setting out auditor and corporate responsibilities, rules for financial disclosures and harsher penalties for “white-collar crimes” [12]. There are especially two sections in the act that concern IT executive and accountants most, 302 and 404(a). These sections deal with internal controls that a company has in place to ensure the accuracy of their data. This relates directly to the software systems that a company uses to transmit, control, and calculate the data that is used in their financial reports. There is also a section in the act, 103, which deals with internal control. Section 103 stipulates specific requirements that must be included in the auditor’s report [18].

The law comprises approximately 15 000 American companies. According to many firms of accountants will 15-30 percent of the American companies fail to comply with the law during the financial year of 2005. [59]

The act has a wide field of application. The law is applied on every company who is considered as an issuer, according to the Securities Exchange Act of 1933. This mean the law is applicable to every American and non-American company who has registered shares or ADR (American Depositary Receipts) on the American stock market or a market place. There are a couple of the Swedish companies with shares available on the



New York stock market that directly falls within the law, including Electrolux, Ericsson, Volvo, Swedish Match, Autoliv, SKF and Stora Enso. Foreign companies that not match the criteria above do not have to comply with SOX, even if they got shareholders in the United States. [7]

### *Section 302*

Section 302 craves CEO's and CFO's to attest to accuracy of their company's quarterly and annual reports. They must also adhere to the numbers below [46] (transcript):

1. They have reviewed the report.
2. Based on their knowledge, the report contains no untrue statement of material fact and does not omit material fact that would cause any statement to be misleading.
3. Based on their knowledge, the financial statements and other financial information in the report fairly present, in all material aspects, the company's financial position, results of operations and cash flows.
4. They accept responsibility for establishing and maintaining disclosure controls and procedures, and the report contains an evaluation of effectiveness of these measures.
5. They have disclosed to the audit committee and external auditor any significant deficiencies and material weaknesses in internal controls for financial reporting and any fraud (material or not) involving anyone having a significant role in those internal controls.
6. The report discloses significant changes affecting internal controls that have occurred since the last report, and whether corrective actions have been taken. Both CIO's and IT executives should be concerned with all the representations above because they can lead to civil and criminal penalties. Therefore will CEO's and CFO's place a huge amount of trust in the people and systems that produce their financial data. [12]

### *Section 404*

The section requires each annual report issued by a company on the US stock market to contain an internal control report that [12] (transcript):

1. State management's responsibility for establishing and maintaining adequate internal control over financial reporting for the company
2. Identifies the framework used by management to evaluate the effectiveness of this internal control
3. Assesses the effectiveness of this internal control as of the end of the company's most recent fiscal year
4. States that its auditor issued an attestation report on management's assessment

### *IT Implications*

The Act makes corporate executive responsible for evaluating, establishing and monitoring the effectiveness of internal control over financial reporting. The role of IT will be crucial in achieving this objective. It is not just large business system but also smaller applications that will be affected by the act. The IT function is the foundation of an effective system of internal control over financial reporting. Many IT professionals being held responsible for the integrity and quality of information generated by their IT systems have not fully realized the complication of internal control. [37]

Organizations need representations from IT on their SOX teams to ensure that IT general controls and application control exist and support the objectives of compliance effort. The most important key areas of responsibility, according to Barlow [5] and IT Governance Institute [23], for IT are presented below:

- Understanding the organization's internal control program and its financial reporting process
- Mapping the IT systems that support internal control and its financial reporting process to find the financial statements
- Identifying risk related to these IT systems
- Designing and implementing controls designed to mitigate the identified risks and monitoring them for continued effectiveness
- Documenting and testing IT controls

- Ensuring that IT controls are updated and changed, as necessary, to correspond with changes in internal control or financial reporting processes
- Monitoring IT controls for effective operation over time
- Participation by IT in the Sarbanes-Oxley project management office

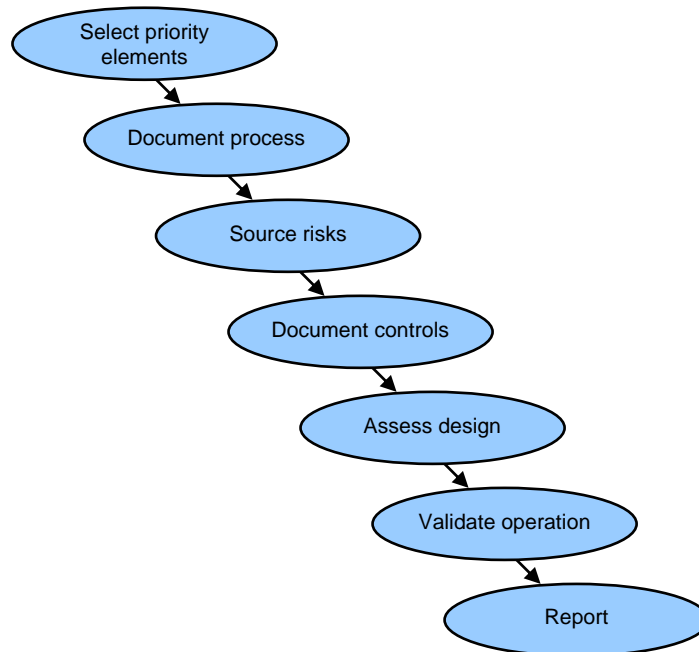
The regulations are difficult to interpret and implementations will both be time-consuming and costly. The IT Governance Institute present two important considerations or advises that should be taken into account:

1. There is no need to reinvent the wheel; virtually all public companies have some semblance of IT control. Even if there are areas with lack of control and evidence of the control functioning, IT control generally exists in areas such as security and change management.
2. Many Organization will be able to tailor existing IT control processes to comply with provisions of the Sarbanes-Oxley Act. Often, it is the consistency and quality of control documentation and evidential matter that is lacking, but the general process is often in place, only requiring some modifications.

It is important to use appropriate knowledge and guidance to take care of the task. Otherwise the organizations run the risk of doing too much or too little. It can be even worse if the responsible people are not experienced enough or do not have the knowledge in managing IT controls. The IT Governance Institute also emphasizes the importance of adopting a proactive approach and taking on the SOX challenge early. The cost of noncompliance will be high and would be devastating to an organization.

### *The Compliance Process*

In figure 6 describes a summary of the sequence of steps accountants will follow when identifying and assessing internal controls, according to Protiviti [47].



*Figure 6. Protiviti's auditing process*

1. Select priority elements
  - Select the priority accounts and disclosures.
  - Consider significance to financial reporting and risk misstatements.
2. Document process
  - Document the transaction flows that materially affect the priority financial reporting elements.
3. Source risk
  - Use financial reporting assertions to source "what can go wrong" within the processes.
4. Documents controls
  - Document entity controls ("tone at the top").
  - Document the controls at the source of the risk (preventative) or downstream in the process (detective and corrective).
    - What are the controls?
    - Who owns the controls?

5. Assess design
  - Assess effectiveness of controls operations at entity and process levels.
    - How is the controls design rated?
6. Validate operation
  - Test effectiveness of controls operation at entity and process levels.
    - How are the controls performing?
7. Report
  - Conclude
  - Disclose
  - Report

After the last sequence there is the attestation process. [47]

### **2.2.2 Auditing Frameworks**

The PCAOB (Public Company Accounting Oversight Board) is nonprofit company established by the Sarbanes-Oxley Act has tried to formulate a business auditing standard [35]. A standard complying with the Sarbanes-Oxley act would facilitate a lot to many companies. Implementing a new business standard is really hard and it will take long time before it is fully accepted.

#### ***Control Framework***

The Committee of Sponsoring Organizations (COSO) has published *Internal Control – Integrated Framework*, which is used for purposes of management's assessments. COSO was created in 1992 and is supposed to be one of most used frameworks in the United States [29].

Sarbanes-Oxley section 404 is based on COSO, which is an internal control framework. This is a way to look at internal control in several dimensions. The COSO framework consists of five major components, see figure 7, and these are described briefly below the figure.

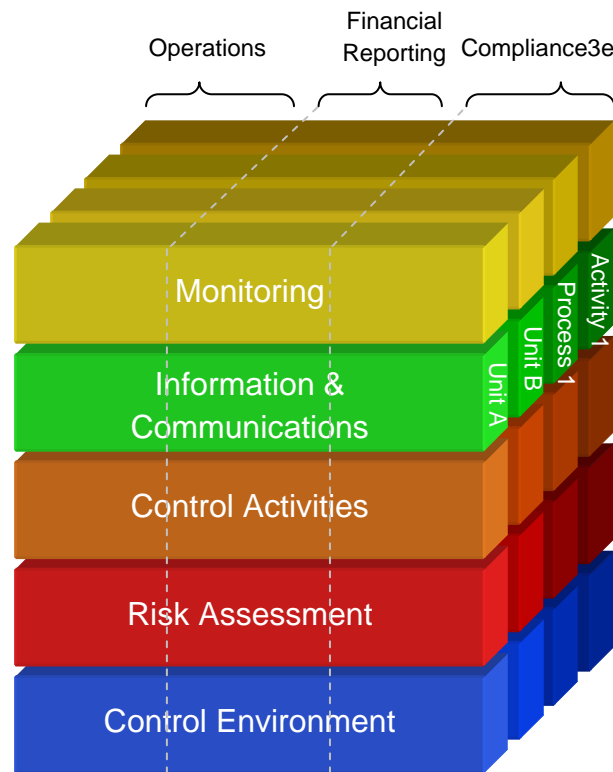


Figure 7. The five COSO component  
 (Source: KPMG LLP, 2004)

- *Control Environment.* The control environment set the tone of an organization, influencing the control consciousness of its people. This is the foundation for all other components of internal control, providing discipline and structure. This way is often called “tone at the top”. [29]
- *Risk Assessment.* The evaluation of internal and external factors that impact an organization’s performance. [18]
- *Control activities* are the policies and procedures that help ensure management directives are carried out. These help to ensure that transactions occurred, are authorized and are completely and accurately recorded and processed. [29]
- *Information and communication.* The process which ensures that relevant information is identified and communicated in a timely manner. [18]
- *Monitoring.* The internal control structure must be continuously monitored to assess the quality of the system’s performance over time. This should serve as input to modify the system to reflect the continually changing environment in which a company operates. [27]

## SAS 70

American Institute of Certified Public Accountants (AICPA) has developed a standard named Statements on Auditing Standard No. 70 (SAS 70). SAS 70 primary objective is to facilitate auditing, control activities, processes and information technology. The standard is directed to service organizations and providers who must demonstrate that they have adequate controls and safeguard when they host or process data belonging to their customers. [1]

The PCAOB (Public Company Accounting Oversight Board) is responsible for finalizing the attestation guidance that accountants must follow when examining management's affirmation on the effectiveness of controls over financial reporting. The PCAOB is a non-profit co-operation, created by the Sarbanes-Oxley Act, to oversee the accountants of public companies in order to protect the interest of investors and further the public interest in the preparation of informative, fair and independent audit report [41]. On Mars 9, 2004, the PCAOB has released an official auditing standard "Auditing Standard No. 2". [42] The file contains information on service organizations and confirms that SAS 70 service auditor's report is an acceptable format to allow management to assess the operating effectiveness of controls at a service organization.

The Auditing standard No. 2 was adopted by the Securities and Exchange Commission (SEC) on June 17, 2004. SEC is corresponding to the Swedish Finansinspektionen. Standards and rules are not effective until they are adopted by the Board and approved by the SEC. [51] The SEC is the authority that has been assigned the responsibility to issue the regulations concerning the application of the act. [7]

AICPA argue that the SAS 70-standard is even more important now when the Sarbanes-Oxley is such a hot topic [51]. The audit consultant company Protiviti says that a SAS 70 report is good starting point, but the SAS 70 reporting process requires modifications by the PCAOB to align with the requirement of section 404 [47].

## *The Turnbull Report*

The Turnbull Report was published in 1999 and has become a widely respected audit framework around UK and other European countries. The Turnbull Report is an audit framework which is about adoption of a risk-

based approach to establishing a system of internal control and reviewing its effectiveness.

The Report intension is to make a sound business sense to manage risk effectively and to embed internal control in the business processes by which company pursues its objectives. The board and senior management need to satisfy themselves that their systems of risk management and internal control are working properly. Line management has the primary responsibility for providing assurance to senior management and the board on the company's risk management internal control framework. The board may decide to seek an objective view that is independence of line management. An internal audit function with the right level of resources should be able to:

- Present objective assurance to the board and management.
- Support the management to improve the processes by which risks are identified and managed.
- Assist the board with its responsibilities to strengthen and improve the risk management and internal control framework [25].

The Financial Reporting Council (FRC) in Great Britain has launched a draft guide published on Sarbanes-Oxley compliance. The guide is for UK and Irish companies registered with the SEC. Under section 404 of the Sarbanes-Oxley Act, foreign registrant companies must comply with the SEC requirements to report on internal controls over financial reporting from 15 July 2005 [15].

*“The SEC has stated that the Turnbull report provides a suitable framework for evaluating the effectiveness of internal controls over financial reporting. This is good news for companies that are already using the Turnbull report in the UK and Ireland and wish to use it to meet these US requirements as well. I hope this guide will help them understand their obligations in the US and how Turnbull can help them to meet those obligations”.*  
*Richard Fleck, chairman of the FRC [16].*

The guide is just a draft and will be fully published in the end of 2004 [16].



The Turnbull Report has been approved as an audit framework by the SEC for the purpose of section 404. The draft guide is a summation how the Turnbull Report addresses the processes and criteria needed to satisfy the US demands that management perform a review off the effectiveness of a company's internal control over financial reporting.

### *European Directives*

The European Union has also proposed new audit rules designed to address issues similar to the Sarbanes-Oxley Act. On 16 March 2004, the European Commission published a proposed directive on auditing rules for corporations within the European Union. The proposal is aimed at ensuring that shareholders can rely on the accuracy of audit corporate accounts. The objectives are to ensure that investors and other interested parties can rely fully on the accuracy of audit control and to enhance the EU's protection against the type of scandals that occurred in companies such as Parmalat and Adhold. It is a part of a much larger plan for reforming corporate governance and contains some provisions similar to those of the Sarbanes-Oxley Act. [14] The proposal contains a numbers of implications to European companies: [17]

- Companies have to set up independent audit comities
- The committee is responsible for selecting an external auditor, and if the management is not satisfied with the choice they makes complain to the national government.
- A company with different external accountants located worldwide, the auditor responsible for the consolidated account will fully responsible the company's financial reporting.

The European version of SOX is in its infancy, and European already SOX-compliance companies should not have too much trouble to comply with this new proposal.

### **2.2.3 Summary**

The Sarbanes-Oxley Act raises the demands on internal control. It was founded because of a numbers of economical scandals. The Act makes corporate executive responsible for evaluating, establishing and monitoring the effectiveness of internal control over financial reporting. There are guidelines and frameworks developed to facilitate the process but no standard. There will in all probability be a similar legislation in Europe in the near future.

## 3 METHOD

The purpose with this chapter is to describe the methods that we used to answer the question of the thesis and to reach its purpose. We will also describe our course of action, how the choice of investigation has been made, our data collection methods and the arguments for our choice and evaluate the credibility and the reliability in our thesis.

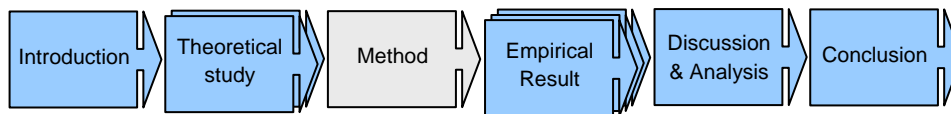


Figure 8. Thesis overview: Method

Our data collection consists of two different sorts of data: primary data and secondary data. With primary data means the material that the authors have collected themselves. Secondary data is data and information that already is documented but is not collected or compiled primary for your own study [34]. There are two main techniques when collecting primary data: interviews and surveys [56]. We have chosen to use the interview technique. This technique is the most suitable for our research, when we believe that a discussion should be made to receive the information we need for our study. We had planned to do a survey and a workshop in the starting period of the thesis but because of the time limitation we were not able to carry this through. It was also difficult to find a point of time to gather everyone for the workshop. Secondary data, i.e. data that already exists, is good to use in the beginning of the investigation when you need to learn about the subject that you are going to investigate and when you are writing the theoretical chapter [56].

### 3.1 WAY OF APPROACHING THE PROBLEM

There are different ways to approach the research problem. As illustrated in figure 9, inductive research starts with the collection of empirical observations, which thereafter form the theoretical implications and framework of the study. On the contrary, the deductive approach is used when the researcher from a general theory forms a hypothesis that is tested empirical. A third approach is a mixture and is referred to as an abductive approach. Here the researcher bounces back and forth between theory and empirical evidence, and tests the empirical evidence in the theoretical context with no point of departure. [36]

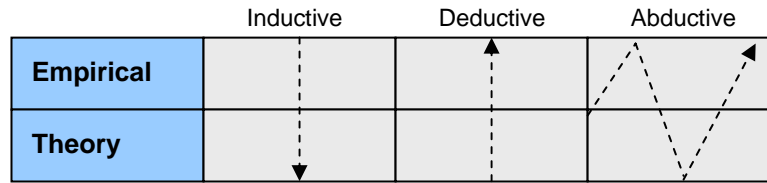


Figure 9. Three methods of conducting research

In this latter method, interaction permits the subjective experience to be highlighted, which is an important source of knowledge. On the other hand, it also involves presenting the subjective, as well as the social part, as objectively and critically as possible [57]. Interviews involve obtaining the subjective opinions of human beings and will therefore affect the results. However, our intention is to present this study as objectively and critically as possible. We agree with Wigblad [57] that there needs to be an interaction between empirical evidence and theory in order to understand the entirety of the studied phenomenon. Our research involves both primary and secondary sources, our approach follows an inductive pattern, due to the fact that we from our empirical data has formed our theoretical foundation.

### 3.2 QUANTITATIVE OR QUALITATIVE

Research methods can be classified in different ways, however one of the most common distinctions is between qualitative and quantitative research methods. [40] Quantitative methods are research methods concerned with numbers and anything that is quantifiable. Quantitative methods describe more statistic relations and answers questions as “what” and “how many”. They are therefore to be distinguished from qualitative methods. Qualitative methods answer questions as “how” and “why”. Using qualitative methods it is often possible to understand the meaning of the numbers produced by quantitative methods. [40]

In our thesis we are going to work with a qualitative method. The data collection and processing of material is based on qualitative knowledge when our intension is to give both our self and the reader a greater understanding to the subject. We wanted to go outside the theory, into the reality, to create an understanding how companies and the persons within the companies look at the current problem area and how they deal with it in practice. We did not intend to establish statistical connection for further generalization but were interested to receive a deeper understanding through personal opinions. This is something that only a qualitative study method can give.

### **3.3 COLLECTION OF INFORMATION**

- Literature studies
- Searching the Internet for research reports, scientific articles and white papers.
- Interviews

#### *Literature Studies and Internet*

We have studied literature on the IT sourcing domain in order to make this study as interesting and adequate as possible. Most information collected is from persons with long experience within the subject, academically and/or professionally. Information for the Sarbanes-Oxley domain was mainly found at the Internet because this topic is so new that there are no scientific articles or books written. We started by looking for information to the problem domain where we present a wide description of the problem area before we narrowed the scope. First we went through books and articles about sourcing and supplier relationship, and continued by searching in different Internet databases in order to find journals related to our topic. We searched for words like “Outsourcing”, “Sourcing”, “Supplier relationship”, “Dependency”, “New demands”, “Offshoring” etc. The Internet databases is where we find research reports of scientific value and articles, which gave us information about current projects and discussions from the business and research world. The books have been used mainly for basic facts, to understand and get an insight to the subject. We have also asked our question in different SOX communities without receiving any good response. The answers we received have been that SOX will affect IT sourcing but not how.

#### *Interviews*

The technique for assembling primary data in the thesis has been through interviews. To obtain as much relevant information as possible regarding our research area we chose to do our interviews with persons that are working with these problems and are well-informed on the subject. We considered that personal interviews were the most profitable for our study. Our opinion is that this kind of interview usually leads to more detailed answers than e.g. telephone interviews. This kind of interview also gives the possibility to observations that helps to strengthen or decline the respondents’ answers. Before we made the interviews we contacted the persons that we expected to have the best knowledge within the area. The companies that we chose to conduct the interviews were influenced by Pelle

Lundgren at Volvo Cars IT, our industrial coach and an expert working within the industry. After a discussion with these persons we decided a date for each interview. We made ten different interviews, nine personal interviews and one telephone interview. The reason we made one telephone interview were because the interviewee was located in a different city. The interviewees were in the position of the following titles:

- Academy  
    Ph. D. Informatics
- Company in the similar position as VC IT  
    Manager IT security
- Customer  
    IT Sourcing Champion  
    Security Control Champion, SCC
- Firms of accountants  
    Senior Manager (approved public accountant)  
    Manager audit  
    Senior Manager
- Supplier  
    Controller  
    Deputy Chief Executive  
    Financial Manager  
    Liaison Officer VCC

To avoid problems at the interview occasion and to prepare the respondents we chose to send an interview guide (appendix) via e-mail a couple of days before the interviews. The interview guide contained discussion questions for the interview. We chose free/open interviews because we did not want to send specific questions because we think that it would lock the discussion to the questions. We (the interviewers) had more specific questions during the interview so we could guide the interview and receive the information we wanted. (appendix). We showed the questions to our supervisor, Urban Nuldén IT University, and our industrial coach, Pelle Lundgren Volvo Cars IT, to see what they thought of the relevance of the questions. From the request of the interviewees we have chosen to let them be anonymous and have replaced their name and company with a capital letter (A to J). A academy, B-D firms of accountants, E-G suppliers and H-J customers.

To fulfill the purpose of this thesis we chose to use an interview technique, which can be characterized by a certain degree of standardization and by some degree of structuring [40]. The function of the interview guide was to support the discussion with the respondents, not as a strict questionnaire. We have allowed the interviewees to discuss openly around the different questions. The reason we chose this method was that we wanted to increase the reliability and that we did not want to manage the respondents' answers.

### *Selection*

Our objective for the interviews was to interview roughly ten persons. This to receive all the information we wanted. This according to Starrin [52] who describes you need eight to twelve interviews to receive good reliability. When all the interviews were done the number of interviewees landed at eleven persons. One interview was with two persons. We wanted to receive all the angles around the subject and because of that we contacted the customers and the suppliers dealing with sourcing businesses, the academy and the accountants. To be able to find the right persons to interview we chose large companies that were affected by our problem question and that we assumed were interested in our research. During a couple of weeks we worked through telephone and e-mail to find and contact the right interviewees. This resulted in ten booked meetings for the interviews. Within the companies that we chose to investigate we have asked people with a position that makes them qualified to answer the questions (see section Interviews). It was hard to find the right persons for the interviews. Almost everyone within the industry are novice and uninformed within the subject Sarbanes-Oxley. We had to contact a lot of different people before we got hold of the right person, with relevant knowledge. We also need to point out that the persons that we interviewed gave us their opinion on the subject not the company's.

### *The Interview Situation*

A very important aspect of an interview is the relation between the interviewer and the respondent. The interview should be made in an atmosphere where the interviewee feels safe and free to talk about his or her experiences [26]]. Our interviews, except one, took place at the respondents' office, either in their room or in a meeting room. At one occasion we interviewed one by telephone at his office in Stockholm. That the interviews took place in the respondents' working environment resulted in that they could relax and concentrate on answering our questions as exhaustively as possible. At the same time this implied a certain degree of insecurity for us,

the interviewers, as we found ourselves at their home ground. But this was compensated for by the fact that the character of the interviews were of an open atmosphere.

The respondents were informed in advance about the purpose of our study and the extension of the interview. The interview took approximately one hour. So during the interviews we had time to present ourselves and our subject. This is in accordance with Lantz [30] who points out that also the psychological scope should be noted at an interview. This means that it should be enough time deposited for the interview and that you should contact the respondent before the interview. In our case a number of the respondents made many spontaneous contributions when they were not limited by the time. Everyone also gave us the opportunity to get back to them if we had any further questions. We finished each interview to ask the respondent if they had any own comments, this to get a good ending of the interview and to give the respondent the opportunity to bring up their own thoughts. Each interview was recorded through our computer and then we transcribed the data to make sure we did not lose any important data. We also asked the respondents if they wanted to read through and comment the transcribed data. Some made comments and some did not think it was necessary.

The interviews will be compiled and analyzed in the chapter Consequences of SOX on IT Sourcing. Then we will discuss the result, answer the problem question and make own conclusions in the discussion chapter. By doing this we try to create a chain of proof as Yin describes [54], from the original research question to the final conclusions. At the same time it is easier for the reader to keep a track of our steps in both directions.

### **3.4 VALIDITY AND RELIABILITY**

The concept validity means that if the researchers really measures what she attempts to measure. If a thesis has a high reliability it means that another person will be able to follow the same method and come up with the same result. To reach a high reliability it is important to describe the method well. [40]

We have tried to strengthen the validity through recording all our interviews. This approach has both advantages and disadvantages. The principal advantages are that the researcher can get hold of much material and will not lose vital information during an interview. It enables the

researcher to listen through the information afterwards and come up with follow up questions for a later occasion. One disadvantage of this technique is that it might not reveal body language. Respondents can also sometimes feel uncomfortable with being recorded. However, the respondents tend to forget that they are being taped. [36]

### **3.5 METHOD PROBLEM**

Qualitative studies are sometimes criticized for having low reliability, that is, it will not give solid evidence. This is because it is highly unlikely that a similar study at a later occasion should give the exact same result. The control becomes complicated when the person who is doing the research and the respondent affects each other and creates a common awareness of the situation [20]. We think that the researchers' participation and influence on the research process is unavoidable. But at the same time positive, since an increased understanding for the whole problem is central for an excellent final result.

One problem that we found during the research was to find the right persons to interview. The knowledge around the subject was very limited and the person that was well-informed on the subject was busy and hard to get in touch with.

### **3.6 OUR CONTRIBUTION**

There is a vast amount of literature dealing with the issues relevant to sourcing. But it is often hard to see the differences between sourcing, outsourcing and insourcing in some cases. The literature dealing with the SOX issue is minimal, practically non-existent. Information about the subject does exist but only at the Internet and in consultants' reports. Moreover, it is a relatively hot topic in today's business industry. However, the literature on the consequences of SOX on IT sourcing is microscopic or none. Therefore we are confident that our contribution will be of high value, not only to the academic society but also to many organizations dealing with or facing the SOX process.

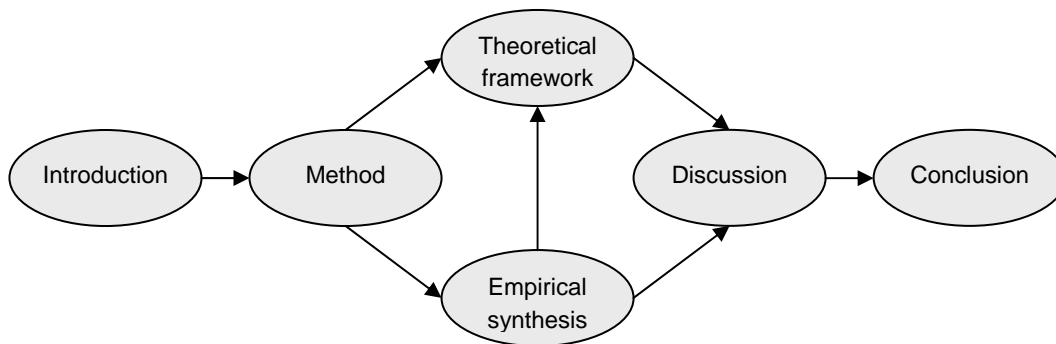
In the origin of our study we experienced a variety of opinions, depending on whom we interviewed, and as time went by we were able to shape our own expertise in the field and funnel our academic and practical focus from our own perspective. Moreover, the variation of opinions showed that there was a need for research in the field to elucidate the problem area.



Our contribution to the academic and business society is therefore what companies need to consider when facing a change of business like this situation. Thus, we attempted to provide an understanding of SOX in relation to IT sourcing.

### 3.7 THESIS CHAPTERS

We consider that the study needed a general perspective. Through answering our question we reached the purpose of the thesis. A theoretical chapter creates an understanding for the material that is presented. The study has an inductive alignment which means that the empirical part has affected the theoretical framework. In the discussion we will connect the empirical study to the theoretical framework. The result is the foundation for the discussion chapter that will conclude the thesis. Below this way of working will be described schematically:



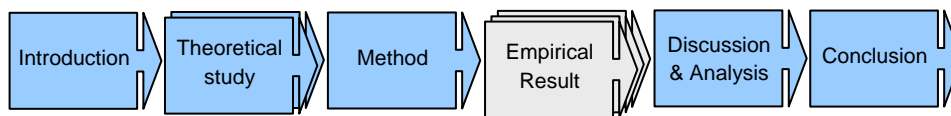
*Figure 10. Connection between the thesis chapters.*

## 4 EMPIRICAL RESULT

We have chosen to divide our result chapter in three perspective derived from our interview study:

- SOX – Managing Complexity
- SOX – Tuning the Process
- SOX – Sourcing Strategy

The three perspectives are derived from analysis of conversational interviews with eleven people (ten interviews) closely involved in SOX matters in Sweden.



*Figure 11. Thesis overview: Empirical Result*

Three of the interviews were with suppliers, two with buyers, one with the academy, three at firms of accountants and one with a company in a similar situation as Volvo Cars IT (see page 45). From the request of the interviewees we have chosen to let them be anonymous and have replaced their names and companies with capital letters (A to J).

- A Academy
- B-D Accountants
- E-G Suppliers
- H-J Customers

## **4.1 SOX – Managing Complexity**

There are many dimensions around the SOX complexity. Depending on how the companies earlier have looked at the internal control and what focus they had on the internal control the complexity gets different meaning. The accountants said that companies within the financial industry, which always have internal control as a part of their core activity and high up on the agenda, will not experience the SOX process too complex to manage. On the other hand companies in the manufacturing industry will almost certainly experience the process considerably more far reaching. On their point of view they have had their primary focus on more important areas. According to the accountants another aspect is the cultural differences e.g. American companies are more control focused than European companies which are more pro decentralized and with more local responsibility.

According to Accountant B another essential problem is that the law, since it was instituted in 2002, has gradually been developed and also construed more tightly. Companies who in the beginning construed the new requirements as quite reasonable underestimated the challenge. These companies are now in deep lack of time in their compliance process. Another problem that the accountants had experienced from their customers in times like this is that the customer has to get more people from their own resources to support the compliance process. This has been difficult when the organizations has slimmed-down their organization. The security commissioner at Company H had also experienced the great amount of man-hours and resources the compliance process has taken on their company. In turn have security projects, which before was not so prioritized, become more important on the agenda. Accountancy firms had experienced that in companies where they do not have the resources or knowledge they are almost being forced to take a higher responsibility leading the compliance process. The compliance process has taken a lot of time and resources from the accountancy firms, remember the SOX-law is a new thing for them as well.

*Table 1. Experienced obstacles*

Experienced obstacles	
Overall	Practical
Lack of competence within the company	Poor process documentation
The lack of competence at the firms of accountants	The process documentation is out of date
New statements	A newly restructured organization
Moving target	Complex business processes

The Accountant B presented a numbers of experienced obstacles the legislation have leded to. The table above shows a summary and a categorization of these obstacles.

The accountant at Company B said that the organizations understand the meaning and outcome of SOX on a conceptual level, but with the obstacles above it is hard to know in practice how to comply with the legislation.

The suppliers had also experienced what to measure and control has changed over time. The Spokesman of Company E said that there has been a constant dispute in how the law should be construed. Things that where right on Monday are wrong on Tuesday. One of the customers (J) felt that no one actually knows what to do and that it is easy to stay out of the subject and it is sometimes hard to identify the main purpose with the SOX process.

#### **4.1.1 Strict Demands**

The construe of the SOX demands varies between companies. The accountant from Company C said that the process is very detailed and to achieve all the control goals a company sometimes have to make unnecessary steps. A supplier (E) to Volvo Cars IT had experienced that Ford has set their demands and requirements really high while other companies' ambitions are just to attain SOX-compliance and nothing more. The Supplier E could not tell if Ford has construed the demands too high, today no one knows what is right or wrong. Not until there has been a legal case you can tell if Fords construe level is okay. According to the spokesman at Company E this can both be an advantage and disadvantage to companies when they start the SOX process in their company. They can either follow Fords high construe level or lower the demands to a more suitable level to their company. The disadvantage is that if a company lowers the demands too much, the customer will in a procurement situation

see this as a negative aspect. The Spokeswoman at Company J thought the requirements they had at their organization were reasonable but sometimes it was hard to see the connection to the annual report.

#### **4.1.2 Business Effects**

The spokeswoman at Company J said that approximately a fifth of her department was involved in the SOX process, the standard work and routines was therefore suffering. They had within the near future estimated the SOX process will require even more resources and man-hours. The Supplier E also said the process had affected their work and they had not had the possibility to develop new projects in the standard rate. Because the SOX process is a completely new process it will affect the companies especially in the first year. The reason for this is, according to the accountant at Company D, that no one had any earlier experience from the SOX work.

##### *The Compliance Process*

Supplier E had been involved in the VC IT SOX process from the beginning, their level of attainment had consequently become satisfied. The other supplier (F) had not participated in the VC IT SOX process and they had not gotten so far in their own SOX preparations. The reason why Supplier F not was involved in the SOX process was because VC IT had assessed that they were not responsible for a critical process. The Financial Manager at Supplier F had not been informed, by the time we did the interview, if they manage any critical processes or not for VC IT.

The deputy chief executive of Supplier F had experienced their customers had been focusing so much at the SOX process that they had sometimes forgotten their suppliers. The Supplier F occasionally felt they been neglected because of the SOX prioritizing.

The Company J was selected to be a pilot in the consolidated group SOX process. They assume they should be finished by the end of January 2005. The whole consolidate group target were to be finished on the first of July 2005. At VC IT they were compelled to be finished on the 31st of December 2004 but already on the 2nd of December they proudly reported to Ford they were SOX compliant.

### **4.1.3 Responsibility**

From a legal point of view it is the buyer who is responsible to make sure their processes are SOX compliant. The Accountant B said the buyer is sitting in the driving seat and to their assistance they use the accountancy firms that are helping them with knowledge, documentation, and testing. But it is the company who is in charge of the SOX process and it is not the accountancy firms' task to tell what should be done. A similar opinion had accountant (D) and said they are being obliged to do job that is not their obligation. The Accountancy firms' primary responsibility is to do the examination of the company's report, an attestation process. The attestation statement is based on the company's documentation, test result and controls to see if there are any scarcities and that they comply fully with the SOX demands.

#### *Current Customers*

A spokeswoman at Customer H said it is the buyer who is responsible for making the demands explicit. "Buyers who can not elucidate what they want can not expect the supplier to deliver the right thing". One way to make the process work is to have a very close relation between the buyer and the supplier. The Supplier E also pointed out the importance of explicitly demands in a procurement situation. The supplier must either know exactly what the SOX demands are or the buyer must explicit explain how they construe the SOX demands. The Supplier E had found out that SOX can be construed diversely, which puts extra responsibility on the buyer to be clear on their demands.

Volvo Cars IT were introducing new demands in their policy and methodology, this also includes the current agreements they had with their suppliers.

#### *Future Customers*

According to Customer I the new SOX demands compel the buyer, already in the procurement situation, to be more accurate in formulating their demands and methodology to the supplier. It costs a lot of money using many companies' methodologies and that is why Volvo Cars uses only one, Ford's SOX methodology. Ford's methodology is adjusted strictly to the SOX demands and VC IT had imposed it to be sure they comply with the new demands. It is a strict methodology to follow but VC IT was hoping, by using this methodology, to avoid doing many of their SOX process all over again.

Supplier E said that in a new business relation it is even more important to be accurate with the demands to the new suppliers. They do not have the same understanding in the business as an already established supplier. Supplier E stated: “The buyers can not duck and make the supplier responsible”.

## **4.2 SOX – Tuning The Process**

A spokeswoman from VC IT said to facilitate the co-operation between VC IT and their suppliers VC IT is developing a new problem solving group. The group consists of people from both buyers and suppliers and will take care of arising issues e.g. SOX. VC IT thought they already had a good dialog with their suppliers. They had experienced a great uncertainty on both sides during the SOX process.

A spokesman from VC IT wished they had larger resources to facilitate their suppliers with better knowledge about the meaning of SOX. They did not have enough resources to explain and present an action program because SOX can be construed different. VC IT only have own knowledge about one phase at time, not a holistic view.

The Accountant C said he had experienced that many companies underestimate following factors in the SOX process:

- The time the process will take
- The demands the law makes
- Preparations
- The achievement of resources
- Educate the employees

Even if the companies receive help from external consultants they should know it is their employees who have the knowledge about the business. Accountant C opinion was that many of the organizations have trouble understanding what the preparation and documentation process is all about. The accountant at Company C advice was to assemble a control project that has good understanding in SOX. The control project task is to make a schedule of what has to be done. He also pointed out that the whole organization has to be involved in the process from day one. The external accountants also have to be involved early in the process. A success factor is not to underestimate the planning work and realize the efforts it will require.

The Companies must discharge employees from their daily work and solely work with the SOX process.

Another aspect the accountant at Company D would like to see was the fact that organization must educate their personnel during the planning phase. She had met employees at companies that had not even heard about SOX.

#### **4.2.1 Standards**

Company C said that the SOX legislation is newly founded and there had not been any standard established. The standards the accountants' works with are the ones the companies have developed, their way of work. Those standards are very specific to a company and can not generally be applied to other companies. There is no ISO standard developed to support the SOX process. The interviewee at Company E was skeptical that the accountancy firms ever will dare to standardize the process, in conformity to ISO, because they have the same responsibility as the companies that the attestation is correct. The spokeswoman at Company J was more positive on a correspondingly ISO standard of SOX.

The guideline or support the companies and accountancy firms can use is the legislation, said the accountant at Company C. A company complying with section 404 automatically follow the COSO framework. The accountant at Company B said the COSO framework is the only standard the companies can follow. There can not be a standard formulated locally.

According to the academy (A) standards are created by the existing knowledge and problems at the moment. Standards also have to be, in a reasonable level, up to date. The interviewee at the academy said the knowledge today about SOX is widely dispersed and can not be united into a standard. The underlying propellant force to carry through a standard is fear. Fear as a propellant force is a strong factor. The contribution from the academy to the complex of SOX is limited. The industry will not receive any help from the research until two or three years from now.

None of the interviewees thought a standard supporting the companies would be created in the future. A standard would not be created before the accountancy firms have become united in construing the law.



### **4.2.2 Communication**

According to Accountant C it is important to have a good and a productive dialog between the company and outsourcing partner, especially when they manage critical processes. The company has to know exactly what activities and controls the outsourcing partner has. According to the spokesman at VC IT they had created a portal with updated information about important changes in the company. It is the suppliers who are responsible to log on to the portal and check if there are any consequences to them. It is also the suppliers' responsibility to contact VC IT if there are any significant changes or faults. Accountant B said the customer must have great demands on the supplier. The customer has to get the information they need from their supplier.

According to Customer I a solution in achieving a good and productive communication between sourcing partners is a forum. In the forum problems that arise could be determined and discussed. VC IT also would like their suppliers to appoint one or two contacts with SOX competence. According to Supplier E the co-operation and communication between VC IT and Company E had worked out really well. Both parties had derived advantage from each other and learned from their mistakes.

One other important aspect according to the accountants was that the company has to have a working internal dialog. The accountants had received many SOX related questions, questions which easily could be solved within the company. The companies think it is easier to ask the accountants than their own organization. Accountant D had advised their customers not to ask the accountancy firms and instead encourage internal dialog and discussion.

### **4.2.3 Outcome**

Even if the SOX process will cost a lot of money to realize will the companies, according to the accountants, favor in the long run. The spokeswoman at Company D said the SOX process entails the companies to reconsider if they do their business process in an effective way. A Required Practice describes a company's activities and how to perform them. In the SOX process are the actual existing activity and the required practice compared. She also said that eventual gaps and divergences will be found and an action plan how to attain required practice is made. She also thought this renders more effective companies and new and better routines will be introduced.

The spokeswoman at VC IT (H) said they have gained more knowledge about the company's processes, controls, risk analysis and internal control during the SOX process. They had also found a couple of gaps, which they now have remedied. According to the spokesman at VC IT (I) another benefit they had gained is that the co-operation and contact to the owner Ford has increased. New circle of networks had been built up which will favor VC IT in the future. Another advantage they found during the process is the old systems had been replaced with new better ones.

The accountant at Company C did not think the SOX legislation will prevent a new Enron scandal but it will increase the efficiency at the companies by reducing their gaps. The process will be experienced as very hard but the companies will receive really thorough process documentation. The companies financial and flow controls will also become better.

### *Future*

The companies that have carried through the SOX work will not realize until 2005 what is really important to focus on within the demands. From the enormous investments that SOX has resulted in PCAOB will evaluate if it is reasonable demands that they make. According to the spokeswoman (H) at VC IT the demands would probably not be reduced. However will the fixing of boundaries become more clear on which applications and processes that shall be regarded as SOX. The companies become more experienced and work more efficiently from an own self-evaluation process. The spokesman (I) at VC IT thought that the demands can varies depending on what accountancy firm the company has hired. The level of ambition, how deep-going, can be different from one company to another. In the future VC IT thoughts that a company will be forced to have a closer examination at the parts that today is not a part of the SOX, you will look from a wider perspective. According to accountant (C) the market will find an acceptable SOX demand level, but in the future the demands will probably increase even more. The accountant at Company D did not think the demands will increase in the future instead will the guidelines become more tuned.

According to Accountant B there was a rumor that during the next years there will be a European correspondence to SOX. This directive shall work as an increased European view at internal control. The directive, that still is not finished, will be something resembling with the SOX demands for European listed companies. The directive has had large attention since SOX came into effect.

### **4.3 SOX – SOURCING STRATEGY**

Accountant B said that when it comes to co-operation between customer and supplier there is no demands, according to SOX, the customer needs to look in their subcontractors' system to see how they function. The essential part to focus on is the input the subcontractors system provides to the company's financial system. The customer must rely on the supplier that the information is controlled and thoroughly worked through. The Accountant B described if an organizations' function is outsourced, (e.g. IT operation or salary department) that is appraised as a critical process, it shall then be included in the SOX process. This means the organization has placed one of the organizations critical processes outside the organizations legal framework. At an occasion like this the company needs access to a SAS 70 report. He (B) also said that this report must then be a part of the SOX documentation. It is important that companies that are embraced on the section 404 include this in all their outsourcing agreements or agreements dependent on financial information from parties outside the company. It is important right from the start to include the information in the agreements to be able to receive the access needed. This is a new phenomenon, Accountant B believed this will appear more and more in the future. SAS 70 has been common in the USA, in Europe there has been other ways to regulate control levels, e.g. through service level agreements.

As far as if SOX will cause any change in the sourcing strategy, Supplier E believed they are not going to be affected. If a company only can prove that they follow the evidence that exists and manage an audit, it does not matter if it is managed from the inside or the outside. The responsibility becomes larger for the suppliers on proving the demands, if they shall manage the function inside the company as a supplier.

According to Supplier E a possible change in IT sourcing strategy will be that the customer will focus on less numerous selective chosen suppliers, which receive a larger part of the project portfolio. The reason for this is then a company can work with the different project parts and fill the evidence for separation of duty (SoD). Supplier E explained that this means that a person does not have the rights to fulfill a process independently. For example, the same person that develops an application is not obligated to implement the application. If a company is assigned more applications they can use their employees more effectively. When a resource is finished in one project, this resource can transfer to the next project.

In the IT sourcing strategy the customer needs to figure out what part of the application portfolio they can give to the different suppliers, so they can receive synergies within their portfolio of application that they are going to manage. Accountant C pointed out that they do not believe SOX will affect the IT sourcing businesses operational. He believes the effect can not be the SOX documentation puts organizations out of business.

### 4.3.1 Capacity vs. Function

When the demands on stricter accounting, documentation and controls are raised, there are reason to figure out what the line of business believes can happen with the IT sourcing trend. Customer I choose today between to manage projects by themselves with temporary manpower (capacity) or external projects, put work out to contract (function), see figure 12. To buy in a function from a supplier, and if the function is essential according to SOX, this means that the customer also needs to do internal audit at the supplier.

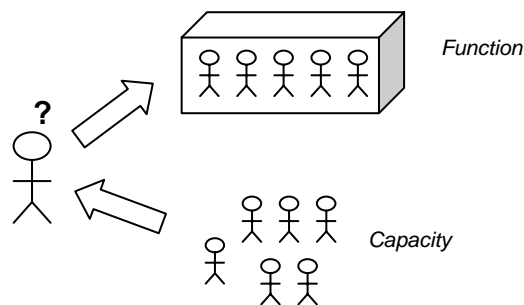


Figure 12. Sourcing strategies

The spokesman (I) at VC IT sensed the effects from the SOX demands would be that it becomes more capacity sourcing, that is buying in consultants from outside the company that carries through the work at VC IT. “If we have temporary manpower consultants they follow our processes to carry through the assignment”. If VC IT instead chooses to let a supplier to manage the whole project, they must go back to the supplier and ask how they carried through the activity, which controls they have and so forth. The spokesman (I) at VC IT meant that “it is hard to find the balance”. One of the interviewed accountants (D) agreed and thought it is more difficult to have an additional part to communicate with. The same accountant (D) had experience from a customer that had its wages system outsourced, which is estimated as critical. In the wages system they detected that the control objectives, except one, had meet the requirements. However, she (D) did not believe that they can make the conclusion that this is because it was an outsourced resource. The spokesman from the academy (A) thought there is

some risk the relation with outsourcing partners becomes more complex and therefore it is easier to keep it in-house.

Supplier F thought SOX will affect their IT sourcing business by higher demands on the delivery. In relation with undertaking a work (purchase a service) the borderlines must become clearer. When Supplier F let out consultants it will not be any change, when their employees comes into a company (as the case may be) will they become a part of the customer company as one of their employees.

The greater part of the interviewed persons believes that SOX will not affect the IT sourcing strategy. Customer H thought nevertheless that the demands on the supplier, before procurement, will increase. “The suppliers that will not manage our demands, will we not be able to contract”. Supplier F thought that the demands on the suppliers would increase but will not affect the standard business. Accountant B thought the legislation just is a changed business behavior that will result in more administration but it will soon become a natural thing. Customer J agreed with the accountant (B) and did not think it will affect their IT sourcing strategy, perhaps contractual in the future. The same opinion had the accountant (D), who thought there are other cost perspective advantages compensating these problems.

There are no doubt the suppliers can take advantages through SOX attest their company, and in good time. To have parts of the organization outsourced involves many difficulties; there are few companies’ that are satisfied with their outsourcing, according to the academy (A). The new SOX demands can be a reason to bring back the outsourced resources quickly to the company.

#### **4.3.2 External Critical Processes**

The spokeswoman at VC IT (H) said that from the critical processes VC IT has identified it is totally 58 applications that support them. Supporting applications of this kind also needs to be SOX attested. VC IT is proportionately a small organization, which causes that the supplier is responsible for 40 of these applications. According to VC IT (H), it is especially Volvo IT and VM-data that holds and are responsible for these applications. They also think the work to identify and grade which applications that shall be considered has been difficult. She also pointed out that more clear rules what are SOX applications had facilitated the work significantly. To find the boundaries the co-operation has to become better

between the organization processes and applications, which is the interface between IT and the organization. In the pilot case at Customer J had also detected they have a critical process at an outsourcing partner. In the present situation Customer J does not know if this process is going to be within their SOX process or not.

## 5 ANALYSIS AND DISCUSSION

The purpose of this thesis was to bring up the set of problems to the surface. In this chapter we will analyze and discuss the empirical data that is compiled in chapter four, Empirical Result. We will give our own reflections from this study and discuss possible future studies within this subject field.

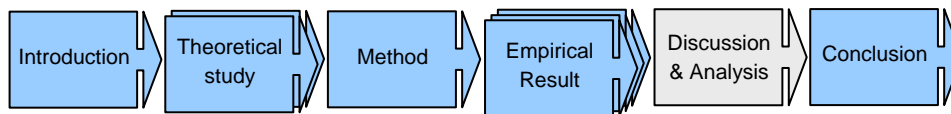


Figure 13. Thesis overview: Analysis and Discussion

### 5.1 ANALYSIS

This part will present an analysis of the compiled result from chapter four, Empirical Result.

#### 5.1.1 Consequences on IT Sourcing

There are no doubts about the Sarbanes-Oxley Act will affect the companies listed on the American Stock Exchange. We have in our survey made different conclusions of essential factors that directly affect IT sourcing companies. To make it as clear as possible we have chosen to divide the factors into disadvantages and advantages.

##### *Disadvantages*

The task to comply a company with SOX is enormous. The negative aspects that have emerged from the interviews are that this is a very costly process when it requires many resources in man-hours and investments in new systems. The result from the business management's priority of SOX is that the daily work has been strongly disregarded. When companies rarely have enough competence or resources to carry through the process themselves they have to hire expensive SOX experts (accountant consultants). Another side-effect that has emerged from the suppliers is that they sometimes feel disregarded because the customer gives too much priority to the SOX task.

##### *Advantages*

It is easy during an extensive work to only look at the negative aspects, but from the interviews we also found a couple of advantages the SOX process contributes with. In table 2 we have divided the advantages into company

and personnel advantages. The personnel advantages naturally favor the company in the future.

*Table 2. SOX process advantages*

SOX process advantages	
Company	personnel
Processes are accordant to the Required Practice plan	Better knowledge in control activities
No or fewer gaps	Improved knowledge in internal audit
New and better routines (increased efficiency)	Enhanced understanding in risk assessment
Better co-operation and communication within the company	
New and more secure computer systems	
Better financial controls	
Competitive advantages	

### *Strategy*

In what extension SOX will affect IT sourcing is a matter of opinion. The greater part of the interviewees did not think SOX will affect the IT sourcing strategy to any appreciable extent. The other interviewees thought insourcing, opposite to outsourcing, would be less complex and the customers will focus on a fewer selected suppliers. If a supplier can show, at an early stage, they have SOX attested their organization they will show confidence and entails competitive advantages.

### *Future*

The accounting regulations will probably change in the future and more processes will be included in the Sarbanes-Oxley Act. These are business processes which today are outside the SOX regulation. At the same time the companies will become better in internal control and it will therefore not be perceived as extensive. New accounting regulations, similar to SOX, will very likely appear within EU.



### 5.1.2 Demands

SOX put new demands on the companies. From our interviews we found different demands the IT sourcing partners have to consider. In table 3 we have created a plan of action, a guideline to easier deal with SOX demands.

*Table 3. Plan of action*

Plan of action	
Customer	Supplier
Better and more accurate specification of requirements	Obtain insight in the buyers new demands
Raise the demands on the supplier	Higher flexibility at procurement, the demands will be raised
Higher obligation to inform the supplier	Procurement of essential outsourcing projects can also include an SOX attestation
Change the agreements to get access to the suppliers financial flows	Designate a liaison officer

### 5.1.3 Facilitate the Process

All the respondents appeared to have the same opinion that the customer had all legal responsibility. This results in the customer needs to be very clear in their demands to their suppliers. In a new business relation is it extra important the buyer has clear demands, because the new supplier does not have the same knowledge about the organization as an already established supplier. From the interviews it appeared the communication between the customer and supplier is very important and a solution to increase the communication between the parties is to establish a forum where they can discuss problems that will arise during the process. The suppliers also asked for meetings between the customers and suppliers where the customer informs the supplier if they will be affected or not. VC IT would like the suppliers to have one or two assigned experts within the SOX area. These persons should act as contact persons towards the customer.

To facilitate the SOX work it is important the companies have a close dialog with sourcing partners managing crucial parts of a process and controls. It is important to exactly know what kind of activities and controls that is managed in other companies. It is also important that the accountants are involved at an early stage so the level is right from the start. The internal dialog is of great importance if the SOX work shall be as efficient as possible.

It is of great importance to understand the extensive signification of the demands that SOX puts on the organization. To solve this complex of problems the company has to dispose enough resources who can describe what should be done. The SOX is a law and can be construed different. It is important the whole organization is involved from the beginning and that the company not underestimated the realization time. Another aspect the accountants would like to see is an improvement of the planning stage with more and better education in SOX and internal control.

### *Standards*

Today there are no standard that can help the companies during the SOX work and none of the respondents thinks it will be any standard developed in the near future. A standard would not most likely be created until the firms of accountants agree how SOX should be construed. The existing standards are too company specific it can not be applied in other companies.

## **5.2 DISCUSSION**

From the day that SOX was legislated (2002) right up until today the companies' focus has been on the SOX process. In the USA and for companies owned by an American company this work has been going on up until a couple of weeks ago. At this very moment the remaining companies that are registered on the American Stock Exchange are very busy with their SOX process. In addition, a similar European legislation will appear in a near future which makes this report very up to date.

For the Swedish large enterprises is the American market one of the most important. A lot of the Swedish industry is directly affected by the American market. Many of the American owned company VC IT's suppliers and IT sourcing partners are Swedish companies that also directly are affected by SOX. As a subcontractor to VC IT they need to be prepared to comply with the demands that SOX makes. For VC IT as well as subcontractors it is of great importance to know the consequences of SOX on their organization.

### **5.2.1 Consequences**

More factors than the companies first believed have been seen to affect essentially IT sourcing and the standard business. We have found that there are advantages with SOX but also a couple of disadvantages. The disadvantages we found in our research are not negligible. Since SOX is a law it is often not possible to drop the alternative to comply the organization

with SOX. The alternatives are to leave the American Stock Exchange and not chose American owned sourcing partners for future business.

IT plays a key role in a company's internal control framework, and therefore has a key role to play in compliance with SOX. As mentioned earlier in the SOX chapter virtually all public companies have some semblance of IT control that they can be able to tailor to existing IT control processes to comply with provisions of the SOX.

### *Disadvantages*

The SOX process takes a lot of time and resources in demand. The companies we been in contact with all agrees about what kind of sacrifice the SOX process demands. VC IT has, during the major part of 2004, practically been focusing only on the SOX process. The same picture has the accountants given us from their mandates. What amount the SOX process demands from each company is still uncertain since the process is still going on. The amount to invest on a sophisticated accounting system is not justifiable in comparison to the value it will return. A larger part of the investment could instead been invested in projects with higher yield.

There are no earlier correspondences in the history to how a law has changed business routines as much as SOX has. Companies are normally very careful when it comes to expenses and investments but when it comes to SOX the priority is so high that all standard business is put aside. IT departments stop and development of new systems are postponed. This new priority results in that meetings with suppliers in some cases are cancelled and this results in lost confidence and dissatisfaction among the other suppliers.

The situation that has appeared can partly be compared with the system changes that the turn of the millennium resulted in Y2K. The similarities are that they companies must overhaul all their systems and the high priority from the board. The differences are that the SOX demands are considerably stronger since the sanctions that has been put on the executive management are very high. The penalty imposed for not comply with the SOX law are the same as second degree of murder.

### *Advantages*

We have also found a couple of advantages of gaining SOX attestations. The largest advantage is that during the process companies discover

deficiency in routines that can be rendering more effective. Through a comparison between the organizations “Required Practice” and their actually activities can an action plan be developed and the gaps can be obstructed. At the same time the personnel will receive a deeper knowledge of the company’s business and operations. The fields of knowledge we found from our interviews is that the personnel has become better in: Internal control, risk assessment and control activities. A company can make faster decisions and increase the competitiveness if there is a high level of control within the organization.

A side effect only a few companies thought they were going to receive before they started the SOX process was that the communication within the company has been improved considerably. As we mentioned earlier in the report the communication within the company is called “the life blood” and “the backbone” of the organization. This is an essential part of the organization to be able to receive a continuous improvement of the organization and if the SOX process can improve the communication is it off course excellent. With a good communication increases the internal co-operation between the company and its employees, which strengthen the organization further more.

The SOX process results in that old computer system have to be replaced with new and more improved systems. The new systems are more secure and more protective against encroachment as well as information losses. The financial control in the company will also be better with new systems.

A company that has carried through their SOX process successfully and received an attestation will be able to benefit from this process in many ways. A company like this has become more effective on the above matters and they have also become more effective compared to their competitors. Maybe the most important aspect we found is that during future procurements will companies like VC IT preferably do business with companies that are attested according to SOX. By that the customer makes sure that the supplier is familiar with the legislation which makes the future revisions easier.

### **5.2.2 *Changed IT Sourcing Relation***

When a new law is legislated, new demands are made or there are changes in the existing demands in some form. From our interviews we have tried to find what new demands are placed on the customer and the supplier. If the

customer wants to be able to pursue a good business relation with their supplier in the future, they have to be more accurate and have clearer paragraphs in the agreements and specification of requirements, especially when the IT sourcing relation is newly established. As we mentioned earlier in the thesis, it is important with a well documented and accurate specification of requirements, but with this legislation the customer is forced to become more accurate to gain attestation year after year. At a procurement and specification of requirements the customer always needs to have in mind that the SOX demands are fulfilled in the systems and applications. A recommendation is always to have SOX in consideration.

The law is still new and many companies are still uncertain on what extension the law has and will have. The customer has the legal responsibility which also means that they are obligated to inform their sourcing partner. Both the customers and the suppliers would like some kind of forum or dialog where experiences can be exchanged and be distributed. If the process shall be as effortless as possible the suppliers should designate someone at the company that has good experience in SOX, this person can function as a direct link to the customer, a liaison employee. The reason for insufficiency in the dialog between the customer and supplier is that both parties are insecure of the meaning of the law and that the directives are constantly changing. To make it easier for the supplier to manage the customers' organizational parts and projects the suppliers must both be flexible and understanding to the customers' demands. Many of the customers' SOX demands are automatically transferred to the supplier in an outsourcing business.

When new demands are put on a company it is important to review the IT sourcing strategy to be able to deal with the changes in the best way. As mentioned earlier in the theoretical chapter, there are vital steps you need to consider when developing an IT sourcing strategy. The empirical findings could not tell if there will be any significant changes in companies sourcing strategy. But the Customer I and the Academy thought SOX will change the sourcing strategy in some way and therefore it is important to go through and examine the strategy so it will measure up to the new demands.

### **5.2.3 Allocate Resources**

To be able to handle an extensive process as SOX the companies need, according to the accountants, to free up resources within the company. This resource (personnel) shall only concentrate on SOX. The companies also

need to prepare to hire compensation personnel. The company shall use the whole organizations' competence and most likely hire SOX consultants from the firm of accountants. The personnel also need to receive some kind of education in internal control. It is the company's personnel, because they are the experts of the organization, together with the SOX consultants that shall perform the work. Already from day one the personnel and the consultants should be involved in the process.

#### **5.2.4 Concluding Words**

The report and the interviews was executed during a period when the law still has not come into force. The insecurity among the interviewees had in many cases been high and the answers from the questions have therefore in a certain extent become speculative. The report reflects well the knowledge situation in Sweden during the fall of 2004. The conclusions we have made and the consequences we will present will most likely be revised throughout the upcoming years. The subjects we are dealing with in this report are extremely hot topics in today's industry, this is reflected in business magazines as well as on the Internet. We have however, surprisingly, not found any article that solely present what consequences SOX will have on IT sourcing.

#### **5.2.5 Method Discussion**

To receive a thesis with high reliability it is important to examine the collected material critically [5]. To critically examine the choice of references and data, both primary and secondary and comment possible flaws, we believe that we could give the reader a complete picture for the thesis assumptions.

A discussion should also be made about the validity of the sources. The sources that we have used are mainly literature, Internet sites and articles. The subject Sarbanes-Oxley is a very new area within the literature. So finding literature based on academical knowledge was not easy, which is why we also had to use the Internet in order to find more information. However, it is also difficult to know whether the information on the Internet is accurate or not. We have used sources from the Internet that we found reliable for example trade journals, consultants reports and sites that are maintained by experts in the area.

Our opinion is that the interviews went very well and we established a good connection with the respondents. In our interviews we received the

information/data from employees within the companies. When receiving this information we have very likely been influenced by them. The information given also had an angle that was suited for the interests of the company. We do think though that the information given was truthful facts and accurate. The objectivity has been considered and we think that the validity of our results is high.

### **5.2.6 Own Reflections**

We have never done a thesis at this level before, but we do have had training in how this kind of work should be executed. The whole process to write this thesis has been very learning. It has been a worthwhile work with much freedom but also a lot of pressure. There are things during this process that we could have done in another way and hopefully got a better thesis. One thing that we could have done in a different way is the formulation of some questions. But at the same time it was hard to formulate the question because of the complexity of the subject. We were also not sure of what kind of knowledge the interviewees had because the subject was so new. We did not have so much experience by doing interviews, so we had to read literature about interview technique. But to be a good interviewer you also need more practical training. One weakness may be that the investigation only includes five companies.

### **5.2.7 Future Studies**

The subject around SOX is large and new and can be investigated in many sub-areas. Our chosen area leaves many other areas un-investigated. During our work we have found the questions handled in the report leave gaps that could be filled with further studies.

Since the area SOX and IT sourcing is large and complex, we have not been able to see to all aspects when writing this thesis. Therefore we will make some suggestions that could improve it further:

- Do a case study, investigate a critical process, then develop a work process SOX guideline.
- Look into other aspects such as economy issues and changed personnel routines issues.
- Research the impacts of SOX on other strategies e.g. offshore.

## 6 CONCLUSION

Within this short chapter we summarize our results, analysis and discussion to answer our research question.

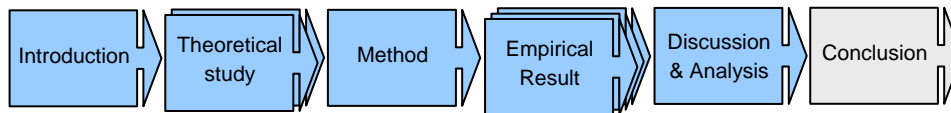


Figure 14. Thesis overview: Conclusion

The research question we introduced in the introduction chapter was:

*What are the consequences of Sarbanes-Oxley on IT sourcing companies?*

The consequences we found during our research are important to take in consideration for companies affected by SOX and using IT sourcing as a vital part of their strategy. We have found many important consequences and chosen to divide them into two categories: Alteration and Business.

### *Alteration Consequences*

These consequences signify alterations in the company's *business, financial* and *competence* areas.

- Business
  - Processes will be accordant to the Required Practice plan
  - New and better routines, fewer gaps
  - New and more secure computer systems
  - Raised co-operation and communication within the company
  - The regular business within the company suffers
- Finance
  - Better financial controls
  - Competitive advantages
  - Increase in expenditure
- Competence
  - Improved knowledge in internal audit, risk assessment and control activities



### *Business Relation Consequences*

The consequences in this category will, according to our research, affect the business relationship between the customer and supplier.

- Possible dissatisfaction among the suppliers
- Specification of requirements will become more accurate
- Raised demands on the supplier
- Higher obligation to inform the supplier
- Changed agreements to get access to the suppliers' financial flows
- The suppliers must obtain insight in the buyers' new demands
- Higher flexibility and SOX considerations at procurement

In the introduction we determined a set of goals that we wanted to accomplish through our study. We believe that we have reached these goals without any doubt. We have received a deeper understanding about SOX and the affect it will have on IT sourcing.

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## 8 APPENDIX

### 8.1 GLOSSARY

These words are defined from our thesis point of view to make it easier for the reader to understand the contents of the thesis.

**Audit:** A formal examination of organizations or individual's accounts or financial situation. An audit may also include examination of compliance with applicable terms, laws, and regulations.

**Business Processes:** A collection of activities that work together to produce a defined set of products and services. All business processes in an enterprise exist to fulfill the mission of the enterprise. Business processes must be related in some way to mission objectives.

**Buyer:** Companies who purchases services (e.g. IT-projects) from suppliers.

**Compliance:** To ensure expenditures are conducted in accordance with SOX, regulations, policies, procedures and business practices.

**Controls:** Measures taken to ensure the integrity and quality of a process.

**Documentation:** Good documentation for both controls and processes is required to become comply with the SOX demands.

**Ford Motor Company:** It is an American car company and is the world's second largest car maker. In January 1999, Ford Motor Company reached an agreement with AB Volvo to buy its worldwide passenger vehicle business, Volvo Cars.

**Procurement:** Procurement is the process of acquiring goods and services within the pre-defined sourcing framework of the organization. Procurement is a tactical, day-to-day activity that is concerned with managing transactions, logistics and suppliers.

**Resources:** The objects within the company e.g. the employees, material, information and products that is used and produced within the company.

**Sourcing:** Sourcing is a strategic and direction setting activity that provides the overarching framework within which procurement activity can be effectively performed for the organization. Sourcing identifies the “what” and from “whom” procurement activities will be conducted.

**SOX:** The Sarbanes-Oxley Act of 2002. Can also be designated as S-Ox, Sox or SOA.

**SOX demands:** The demands or requirements the Sarbanes-Oxley Act puts on the companies to become SOX-compliance.

**Supplier:** Companies (e.g. Volvo IT and Semcon) who provides services to their customers.

**Volvo Cars IT:** Volvo Cars IT department.

## 8.2 INTERVIEW GUIDE

Here follows the different question guides that contain the questions from the interviews with:

- Academy
- Customers
- Firms of accountants
- Suppliers

We have chosen free/open interviews because we did not want to send specific question because we think that it would lock the discussion to the questions. We (the interviewers) had more specific sub-questions during the interview so we could guide the interview and receive the information we wanted (see below).

### 8.2.1 Academy

Hur ser du på problematiken kring SOX?

- Tror ni att SOX kan påverka modellen för sourcing?
- Finns det anledning att tro att SOX kommer att förändra sourcingstrategin hos kunden för att undvika komplexitet?

Vad kan göras för att underlätta arbetet med SOX mellan kund och leverantör?

- Finns det anledning att ta fram någon standard liknande exempelvis ISO?
- Hur får man kunders och leverantörers standards att fungera ihop?
- Hur skulle ni vilja se att en sådan standard arbetades fram? Hur driver man en standard?
- Hur skulle du vilja se att dialogen/forumet mellan kund och leverantör fungerade för att underlätta i SOX-tillpassningen?

Vad kan akademien bidra med när det uppstår denna typ av problematik?

### 8.2.2 *Customers*

- Vilka krav ställer ni på era leverantörer?
- Vilka kritiska/väsentliga processer och flöden har ni funnit?
- Finns några av dessa utanför dörrarna?
- När och på vilket sätt meddelade ni era sourcingpartners att dom har en kritisk process som måste SOX-attesteras?
- Hur ser ansvarsförhållandet ut kund/leverantör/revisor?
- Vilka krav ställer ägare på er och era underleverantörer?
- Hur tycker du era leverantörer har samarbetat?
- Hur kan ni som kund underlätta för leverantören?
- Just nu befinner vi oss i en uppstartsfas både vad det gäller nya krav och skärpt dokumentering. Hur kommer det att se ut i fas 2? Kommer kraven att höjas eller sänkas?
- Vilka andra fördelar ser ni med att gå igenom och dokumentera era flöden och processer?
- Finns det mindre utrymme i framtiden för nya sourcingpartners att samarbeta med er?
- Anser du att leverantörerna förstått vikten/allvaret av att SOX?
- Hur skulle du vilja se att dialogen/forumet mellan kund och leverantör fungerade för att underlätta i SOX-tillpassningen?

### 8.2.3 *Firms of Accountants*

Hur ser ni på problematiken kring SOX?

- Har ni i dagsläget vidtagit några åtgärder för att ligga i framkant med skärpt lagstiftning inom internkontroll, spårbarhet och redovisning?
- Hur ser ansvarsförhållandet ut kund/leverantör/revisor?
- Just nu befinner vi oss i en uppstartsfas både vad det gäller nya krav och skärpt dokumentering. Hur kommer det att se ut i fas 2? Kommer kraven att höjas eller sänkas?

På vilket sätt har/kommer SOX att påverka ert arbete?

- Hur påverkas er verksamhet av Sarbanes-Oxley akten kortsiktigt?

Vad kan göras för att underlätta i arbetet med SOX mellan er och era kunder?

- Har ni tagit till er någon standardlösning (t.ex. SAS70, Turnbull för att) ligga i framkant med SOX-problematiken?



- Hur skulle ni vilja se att en sådan standard arbetades fram? Hur driver man en standard?
- Hur får man kunders och leverantörers standards att fungera ihop?
- Hur skulle du vilja se att dialogen/forumet mellan kund och leverantör fungerade för att underlätta i SOX-tillpassningen?
- Tror ni att SOX kan påverka modellen för sourcing?
- Finns det anledning att tro att SOX kommer att förändra sourcingstrategin hos kunden för att undvika komplexitet?

### **8.2.4 Suppliers**

På vilket sätt har/kommer SOX att påverka ert arbete?

- Har ni i dagsläget vidtagit några åtgärder för att ligga i framkant med skärpt lagstiftning inom internkontroll, spårbarhet och redovisning?
- Hur ser ni på problematiken kring SOX?
- Hur påverkas er verksamhet av Sarbanes-Oxley akten kortsiktigt?

Vad kan göras för att underlätta i arbetet med SOX mellan er och kund?

- Har ni tagit till er någon standardlösning (t.ex. SAS70, Turnbull) för att ligga i framkant med SOX-problematiken?
- Hur skulle ni vilja se att en standard arbetades fram? Hur driver man en standard?
- Hur får man kunders och leverantörers standards att fungera ihop?
- Hur skulle du vilja se att dialogen/forumet mellan kund och leverantör fungerade för att underlätta i SOX-tillpassningen?

På vilket sätt tror du SOX kommer att påverka er och kundens sourcingstrategi?

- Tror ni att SOX kan påverka modellen för sourcing?
- Finns det anledning att tro att SOX kommer att förändra sourcingstrategin hos kunden för att undvika komplexitet?